

BUTANE-PROPANE

News

Headquarters for L.P. gas Information Since 1931

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JUNE, 1954

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**YOU ASKED
FOR IT!**

THE *NEW* FUELPACK 1,000A ASME ABOVE-GROUND TANK



In answer to your demand for large, long-lasting, easy-to-service LP-Gas containers, Scaife Company has developed a new addition to the FuelPack line of ASME tanks. It's the new Type "EA -1000 A" with valves and accessories end mounted for easy servicing.

Every unit contains the kind of materials, engineering and workmanship that has established Scaife FuelPacks as a quality line.

REMEMBER THE SEVEN SCAIFE FUELPACK FEATURES:

- 1 Exclusive Lock Lid
- 2 Sturdy Valve Protection Ring
- 3 ASME and other Data Clearly Stamped on Valve Protection Ring
- 4 Extra Strong Lifting Lugs
- 5 Light-weight, high strength Steel Construction
- 6 Easy Fuel Level Inspection
- 7 Extra Strong Tank Supports, Integrally Welded to the Tank



SCAIFE COMPANY

OAKMONT PITTSBURGH DISTRICT PENNA.

MAKERS OF PRESSURE VESSELS AND DRAWN SHAPES





When you ask yourself about
LP-Gas systems, you
may come up with...

QUESTIONS LIKE THESE:

Will they be easy to service? Hackney LP-Gas Systems are designed for fast, easy servicing—with fittings mounted on the shoulder or end of the tank.

How are they for looks? You'll be proud to install good-looking Hackney Systems. Welds are always smooth and uniform. One-piece streamlined domes harmonize with tank contours... have no seams where rust can start... are extra heavy for complete valve protection.

Are they ready to use on arrival? Hackney Systems are furnished complete with quality fittings—are thoroughly cleaned and dried—are painted with a tough, long-lasting coating.

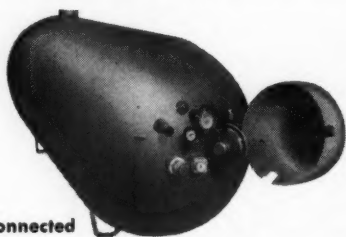
Have they been fully tested? Hackney Systems are made in full accordance with ASME codes and

NBFU regulations—are listed by UL. Welds are X-ray controlled for soundness and uniformity. Carefully inspected. Hydrostatically tested.

Can I get just the size I need? Hackney standard sizes are 250, 499, 640, 855, 995, 1135, 1199, 1745, 2550 and 3360 gallons. Can also furnish other sizes to meet your needs.

Whose reputation stands behind these systems?

Hackney LP-Gas Systems are another product of Pressed Steel Tank Company—makers of famous Hackney LP-Gas cylinders. They're designed and built to meet your needs for long-lasting, easy-to-service, economical-to-maintain systems. Write for further details.



End Connected



Shoulder Connected

Pressed Steel Tank Company

Manufacturer of Hackney Products

1487 S. 66th St., Milwaukee 14 • 52 Vanderbilt Avenue, Room 2099, New York 17
227 Hanna Bldg., Cleveland 15 • 936 W. Peachtree St., N.W., Room 112, Atlanta 3
208 S. LaSalle St., Room 790, Chicago 4 • 552 Roosevelt Bldg., Los Angeles 17
18 W. 43rd St., Room 13, Kansas City 11, Mo. • 138 Wallace Ave., Downingtown, Pa.

Downingtown Iron Works, Inc., Division,
Downingtown, Pennsylvania

LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS



Men
Who Have
Built Their
Business
On Metered
Service
Know . . .

From left: Hartley Barker, Don Putnam, Miles Barker, Lee H. Barker, President, and Jack Peters, all of Wisconsin Rapids Gas and Electric Company, inspecting ROCKWELL LP-Gas meters.



ROCKWELL LP-GAS METERS

READ WHAT Miles H. Barker, Vice President, Wisconsin Rapids Gas and Electric Co. has to say about lightweight, attractive ROCKWELL LP-Gas Meters . . .



WISCONSIN RAPIDS GAS AND ELECTRIC COMPANY
WISCONSIN RAPIDS, WISCONSIN
February 26, 1953

Rockwell Manufacturing Co.
Pittsburgh 8, Pennsylvania

Gentlemen:

We started our propane business back in 1933 using meters on our tanks and mains. Down through the years we have continued to use meters for all sizes of tanks, and our metered service has been recognized through the central part of our state as being the finest and most deluxe propane gas service available.

Customers enjoy the convenience of metered service, inasmuch as the responsibility of keeping the tank filled and reading the meter rests with us. Where other types of service and our service are both available, our metered service is the choice by the majority of those using gas.

We have used several makes of meters since starting in the gas business, and we are happy to say that we have been using Rockwell meters exclusively since before the war. They are well designed and easy to install. Rockwell has always rendered excellent and prompt service, and it has been a pleasure to do business with them.

Very truly yours,

WISCONSIN RAPIDS GAS AND ELECTRIC COMPANY

Miles H. Barker
Vice President

Miles Barker/cwp

SAVE MONEY by lowering operating costs, guiding truck route planning and simplifying storage and inventory problems.

EARN GOODWILL of customers by providing a metered bill based on a device they can check, reducing the possibility of error to a minimum.

SELL NEW CUSTOMERS on your service by assuring them an adequate supply of gas at all times and permitting them to pay for gas as they use it.

ROCKWELL MANUFACTURING COMPANY

PITTSBURGH 8, PA. Atlanta Boston Chicago Houston Los Angeles
New York N. Kansas City Pittsburgh San Francisco Seattle Tulsa
In Canada: Peacock Brothers Limited



Sales office and plant at Wisconsin Rapids Gas and Electric Company



YOU CAN GET ON ROCKWELL

BUTANE-PROPANE

News

NBP

VOLUME 16 • NUMBER 6

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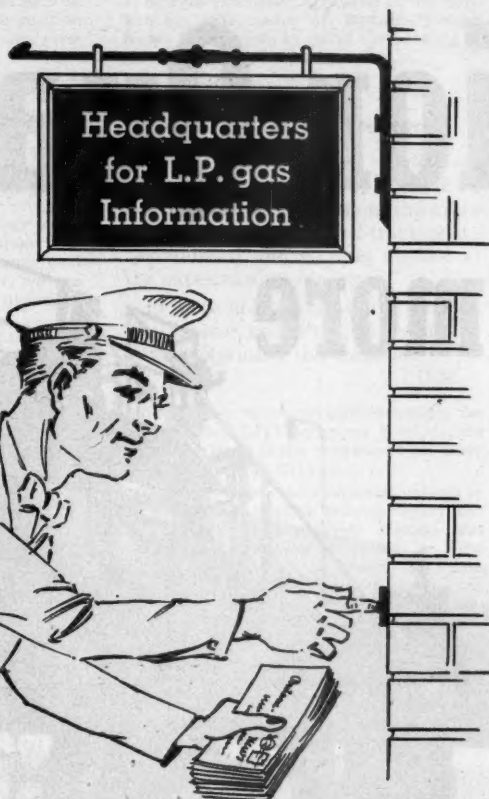
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BUTANE-PROPANE News is published monthly. Copyright 1954 by Jenkins Publications, Inc., at 198 So. Alvarado St., Los Angeles 57, California. Subscription price: United States, U. S. Possessions, and Canada (in advance): 50c per copy; one year, \$2; two years, \$3. All other countries: one year, \$4; two years, \$7. Entered as second-class matter May 29, 1939, at the post office at Los Angeles, California, under the Act of March 8, 1879. Member of Audit Bureau of Circulation, Business Publications Audit of Circulation, Inc., Liquefied Gas Assn., National Fire Protection Assn.

Publishers: GAS, The Magazine of the Gas Utility Industry; HANDBOOK BUTANE-PROPANE GASES; THE BOTTLED GAS MANUAL; BUTANE-PROPANE POWER MANUAL; Annual BUTANE-PROPANE News CATALOG; LPG BULK PLANT MAILING LIST SERVICE; WESTERN METALS.

LETTERS



Meters for L. P. gas

Illinois

We are dealers in bottled gas, serving our customers with 60- and 100-lb cylinders. All of our gas is purchased from a bottling company on an exchange drum plan. Our operations started eight years ago and we have between 400 and 500 accounts.

In the past few years our competition has more than doubled and we are experiencing a lot of cut price troubles and special features to get our customers. To date we have not lost many accounts but can see what the future will bring unless we can change our methods of operation.

For quite some time we have been entertaining the idea of putting 420-lb tanks on for a lot of our two-unit users and using meters on a step-down rate of consumption of fuel, our idea, of course, being to fill them with bulk truck at a savings to us on the cost of the fuel as well as being able to serve our customer better with less chance of losing him to a special inducement competitor.

Would it be possible for you to give us any information as to how successful such a plan might be and possibly refer us to some company in our near vicinity who has been operating in such manner.

P.B.

We do not know of a specific company near you who uses vapor meters to meter L. P. gas to their customers. We do know it is being done and quite successfully by many dealers throughout the country.

We are enclosing tear sheets of some articles which were published in *Butane-Propane News* that relate to the use of vapor meters. You may find them helpful.

Also our booklet No. 5, "Bulk Customer Systems," includes an article entitled "Combining Deliveries and Collections With Meter Readings" along with several other interesting articles on management and L. P. gas problems.

Meters can be obtained to read in cubic feet, pounds, therms, or gallons. Care should be used in determining the price schedule to allow for the effect of temperature, butane-propane mixture and other factors peculiar to metering L. P. gas vapors.—Ed.

Cylinders and Filling Equipment

Ontario

In the February, 1952, issue of *BUTANE-PROPANE News* there was an article on the use of cash and carry cylinders, and filling equipment was shown in an accompanying photograph. Are these cylinders and filling equipment manufactured by all the normal suppliers of this type of equipment?

It stated that this type of cylinder was used in apartment houses. How

and where are they placed when thus used?
E.A.S.

Most of the companies which manufacture ICC cylinders for L. P. gas include the small 20-lb or 5-gal. size in their line of sizes.

The handles, or guards, and valve type may vary between manufacturers, or in accordance with purchaser's preference. Note the illustrations of the manufacturers advertising in *Butane-Propane News* and *Butane-Propane Catalog*.

We cannot say what the author had in mind about their location when he said they were used in apartment houses. Present codes prohibit the installation of containers of any kind inside dwellings.—Ed.

New Location for Bulk Plant

Mexico

The reason for this letter is to seek your advice for we intend to change the location of our bulk plant. Even though our present plant meets all the safety and service requirements, we would be very grateful if you would advise us so that our new one would meet all the necessary service and safety measures.

We are enclosing a plan of the grounds where we want to install it in case you might need it to make a sketch.

Next you will find what we need on the plant:

A speedy gas unloading from tank cars to storage tanks. The position for the tank car hoses, the piping, the filters, the valves, the most practical intakes for the storage tanks, the proper pipe sizes, the position for the compressor, its tubing and its sizes.

Position of the storage tanks with respect to the tank cars (railroad). Position of the pump for filling the cylinders of a capacity of 100, 60 and 40 lb.

The most practical position for the immediate filling of cylinders and auto tanks as well as the proper intake sizes.

The best position for the place where auto tanks (trucks) can be unloaded into the storage tanks in the shortest time.

Position of the automatic switches for light and energy for the operation of the entire plant.

All that is necessary for the proper operation of a bulk plant for filling of cylinders, auto tanks (trucks) and to unload into it from railroad tank cars and auto tanks with butane-propane.

We have the following equipment:

- 1 Brunner and Corken compressor.
- Viking pumps.
- 6 Roney automatic fillers.
- 2 storage tanks 6000 gal.
- 1 storage tank 7000 gal.
- 1 storage tank 30,000 gal.

G.G.

Superior Quality

costs no more



Price tags on tanks for liquefied petroleum gas and anhydrous ammonia are deceiving! All tanks may look alike, but there can be a tremendous difference in *quality*. The quality you must have for longer service life, for lower maintenance, for vital extra safety.

To give you that quality, A.C.F. not only x-ray inspects every inch of welded seam, but because of stresses set up by fusion welding, completely stress relieves the entire tank. Few manufacturers do this!

Such operations guarantee safety and provide the superior A.C.F. quality—yet the cost to the tank purchaser is comparable in price to the tanks that are not x-rayed or stress relieved.

These are just two of the reasons why A.C.F. tanks are unmatched for value! Why take unnecessary risks? Ask a courteous A.C.F. Representative for the complete facts today, or send for descriptive literature. American Car and Foundry Company, New York • Chicago • St. Louis • Cleveland • Washington • Philadelphia • San Francisco.

STORAGE TANKS • TRUCK TANKS • SAFETY VALVES

A.C.F.



Quality you can trust

We can only offer some comment and references in answer to the questions in your letter since we are not in a position to provide engineering service on your problem.

There are several L. P. gas companies in this country who can provide complete engineering service and prepare detailed plans for you.

We are enclosing herewith, tear sheets of articles on bulk plant design which appeared in recent issues of our magazine **Butane-Propane News**.

The information included in your letter and on the sketch lack much pertinent data which is needed before a recommended layout can be prepared. However, we can partially answer some of the questions which you have asked.

The plot plan indicates that the property is bounded on one side by a railroad and on the other three sides by streets. Which of these streets is the more important or more traveled, and from which ones would entrance and exit drives be established? Office and display room should be on the street most traveled and well known.

The unloading station for tank cars must be near the northwest corner of the property as this appears to be the only place for setting the cars. Normally two lengths of liquid hose at least 1½-in. size and one length of 1-in. vapor hose is used at each tank car unloading station. Sometimes 2-in. liquid hose is used rather than the 1½-in.

The compressors and pumps provide better service if they are placed near the storage. The pumps should be provided with adequate inlet piping, as large or larger than the pump inlet connection. Tanks should be set high enough that piping can be sloped downward all the way from the tanks to the pump inlet. Smith Precision Products Co., 1135 Mission St., Pasadena, California, has several good booklets and data sheets available on the sizing of the L. P. gas pump piping.

It is not necessary to place the storage tanks adjacent to the tank car or tank truck transfer locations. They may be placed 100 ft or more from the unloading connections if desired, providing adequately sized pipe lines are installed between the locations. It is better to provide a reasonable amount of space between the unloading stations and storage tanks, because the greatest hazard from leakage and fire is normally at the point of transfer.

Electric switches which are not the explosion proof type must be kept at least 50 ft (more is desirable) from storage tanks, unloading stations, bottle filling and bottle storage or other locations where the L. P. gas is handled or stored. You may be able to locate the main switch panel near or at the office building and place explosion proof start and stop buttons at the motors or where it is desired to control the motors. (Any structures except the bottle filling building should be at least 50 ft from storage tanks or fuel transfer points.)—Ed.

Garbage for Pigs

Virginia

Our legislature has just passed a statute requiring all garbage to be boiled for 30 minutes before being fed to hogs. We have not been able to find the type of equipment best suited for this operation, and would appreciate your advising us the type of equipment.

J.G.C.

An article entitled "Pigs Is Profits" by J. Arthur Thompson appeared in the September, 1953, issue of **Butane-Propane News**. It describes in detail the cooking of garbage for feeding hogs.—Ed.

Propane vs Gas for Tractors

California

A client of ours wants to know if we have any information as to the areas where propane equipped tractors are "established and gaining ground at the expense of gas tractors."

Is there any authoritative data on this subject, and if not, can you give any background information?

O.M.

In response to your client's question, the areas where LPG equipped tractors are gaining ground at the expense of gas tractors are about as follows:

The San Joaquin and Imperial valleys in California; the central Arizona region; the great plains area of New Mexico and Texas; the Rio Grande valley in New Mexico and Texas; the wheat belt from Oklahoma north to Minnesota; the corn belt as far east as central Illinois; and the plantation regions of Louisiana, Mississippi and Alabama.

There are no doubt smaller areas where this same condition prevails due to the activity of outstanding dealers, but as far as regional trends go, the above statement just about covers it.—Ed.

Boiler Conversion

South Dakota

Would you please tell me what the comparative cost of operation for a 40 hp. Murry boiler between No. 2 fuel oil at 14¢ per gallon and propane at 12¢ per gallon? This is an horizontal boiler and at the present time is burning approximately 100 gallons of oil per day.

We also would like to know the size of burner it would take to heat this boiler within one hour. Any other information that would be needed would be appreciated.

This boiler is used in a laundry and cleaning plant carrying 100 lb. of steam.

N.N.W.

It is doubtful if very much may be gained in efficiency with gas firing over oil firing on a 40-hp. boiler if the oil burner has been kept clean and well maintained. However, they are seldom kept in top condition. It may also be necessary to change the baffles in the boiler to obtain the highest efficiency on gas. Boilers are often baffled differently for use with oil as the fuel than for gas firing. Also, some change may be required in the fire box.

We suggest you write to the manufacturer of the boiler and obtain their recommendation about any changes which may be required for converting to gas firing. Include the model number and serial number when you write to them. The

boiler manufacturer undoubtedly builds gas fired boilers and can recommend a burner which they have tested and found satisfactory for use on their boiler.

A gallon of No. 2 oil contains about 138,000 Btu per gallon while propane contains about 91,600 Btu per gallon. Therefore, it requires $138,000 \div 91,600 = 1.5$ gallons of propane to deliver the same amount of heat at the burner as 1 gallon of oil. So the propane required to equal one gallon of oil on a straight heat equivalent basis will cost $12 \times 1.5 = 18¢$. However, 14¢ is not the cost of the oil at the burner. It requires power to operate the oil pump and burner and to pay labor for cleaning and maintaining the burner. These power and incidental costs may easily amount to 1¢ per gallon, making the cost of oil at the burner 15¢ instead of 14¢.

Based on 100 gallons of oil per day, fuel oil will cost them \$15, and propane \$18 per day.

However, if the boiler is not operating efficiently on oil and only 60% of the heat in the oil is delivered in the steam; and it is possible to increase this efficiency to 70% on propane, the cost of propane (based on present use of 100 gallons of oil per day) would cost but \$15.48.—Ed.

A Competent Person

California

In your December, 1953, issue you ran a news story called "New Recommendations and Amendments by ICC." This article said in part that visual inspection of cylinders complying with certain specifications could be made instead of hydrostatic retests, and that "inspections shall be made only by competent persons..."

We would like to know who, in this case, is considered a competent person?


R.W.K.

We have received several inquiries similar to the above. So that we could answer this question, we wrote to Mr. H. A. Campbell of the Interstate Commerce Commission. Following is Mr. Campbell's letter:

"This will acknowledge your letter regarding your recent news story based on an article appearing in Liquefied Petroleum Gas Association National Technical Bulletin No. 3-53 relating to the retesting of compressed gas cylinders.

"The above pertains to Note 12 of section 73.34(k) of Interstate Commerce Commission regulations which permits the visual inspection of ICC Specification 4B, 4BA, and 26-300 cylinders used exclusively in liquefied petroleum gas service.

"For your information, prior to the inclusion of Note 12 in the regulations many cylinders which successfully withstood the hydrostatic or pressure test were removed from service because of other defects, which defects were noted by competent personnel of either the shipper or an outside agency inspecting and testing cylinders. The term "competent persons" as included in Note 12 means those persons who are experienced in the filling and maintenance of cylinders and are qualified to determine if they are in proper condition for transportation. It does not mean that those persons must be engaged in the fabrication of cylinders."—Ed.



SURE!

SURE!

SURE!

SURE!

LP GAS

... Yes — when you specify "Stanolind" you can be SURE of dependable "on spec." products from conveniently located, modern plants, and trained technical personnel to assist with YOUR problems. Why not write, wire or call.

STANOLIND Oil and Gas Company

LP GAS SALES SECTION
P. O. BOX 591

• STANOLIND BUILDING
TULSA, OKLA.

JUNE



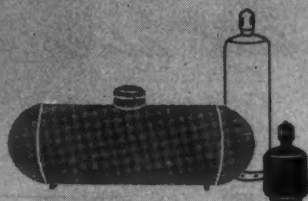
Beyond the Mains

OUR INDUSTRY NEEDS A FIGURE. In watching the the daily newspapers around the country we are impressed with the fact that we never see anything about the excellent record for safety that characterizes the operations of most of our distributors, but the occasional accidents get widespread publicity. The reason is simple. Safety, in itself, is not dramatic, and has no news value unless an element of drama or surprise is injected.

The commercial air lines have faced that same problem and have come up with an effective answer, based on the sound old publicity formula that "there is magic in millions." They created their own formula, carefully calculated to create a dramatic impression of the safety of flying and it brought out answers in truly impressive form. Remember? "The ----- Airlines has flown 967 million passenger miles without an accident." And week by week the figure grew with an amazing multiplication of those millions. It did create a positive picture of safety in the air, and it "made the papers."

Let's look their formula in the eye, and see what we can learn. "Passenger miles" are not the same as miles flown by a passenger airplane. They are the product of miles flown times passengers carried. For example, a DC-6 flies about 1000 miles from Los Angeles to Portland, Ore., and carries approximately 60 passengers. That's 60,000 passenger miles. In 17 trips this adds up to a total of one million passenger miles, and every few days another million is added to their record for safe flying. That makes fantastic figures in a hurry.

With the object lesson of the air lines before us, what can we develop that will give us a comparable figure to dramatize the safety of gas? How's this?



Continued ...



Continued ...



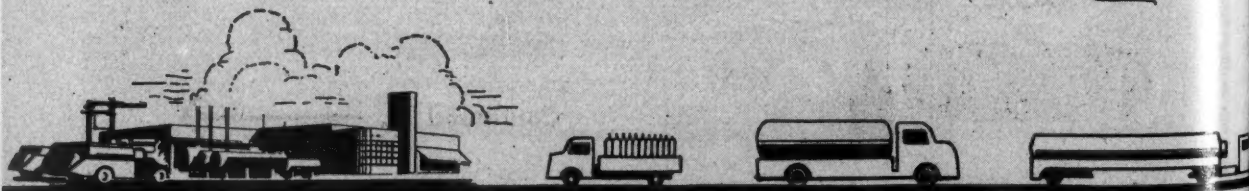
Beyond the Mains

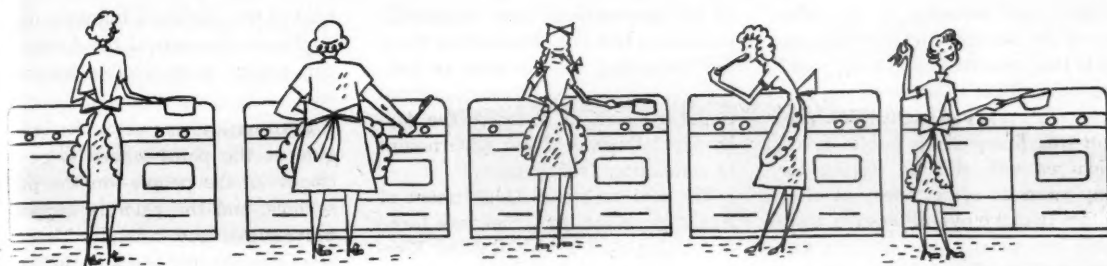
The John Doe Bupane Gas Co. has one thousand domestic gas customers. Say they burn an average of 90 gal. per year in their kitchen ranges and there are no accidents. That's 90,000 gal. of accident-free cooking--not too impressive. Convert it to pounds, and the figure is 381,600--still not good enough to be dramatic. How about meals? With suitable deductions for eating out, we may conservatively assume that the customers cook three meals per day 320 days per year, for an average size family of 2.8. In a year John Doe's customers have cooked 2,688,000 meals without an accident. Sounds safe? Multiply it by the numerous John Does, and add in all the legitimate extras, and we have a figure that really indicates an impressive degree of safety. That's the sort of figure our industry needs.

GOOD IDEAS, LIKE GOLD, are where you find them, and a great many practical ones come from the people who are daily meeting problems in their contacts with customers. This one may not be new, but we like it, and we wonder why it has not come to our attention sooner. A motel operator in Omak, Wash., asked his LPG supplier, George Gray of Proflame Gas Inc., for some decals or metal plates to put on the oven door panel telling transient customers how to light the oven.

Yes, people who are not familiar with ranges should know how to light the gas. A flash in the face, induced by delay in getting the match to the burner, is not good advertising for L. P. gas. -- or utility gas. Who should supply the instructions? The manufacturer of the range? The AGA or LPGA? The company that supplies the gas? Let's make a public service project of this, and get something done.

Carl Abell





Beat Electrical Competition With the FACTS!



By Carl Abell

This is an article in the series "How to Beat Electrical Competition" by Carl Abell. Articles appearing in the May issue of BUTANE-PROPANE News dealt with gas ranges, gas water heaters, automatic gas clothes dryers, and the new competitive cost calculator. (For information on buying the calculator see pages 80, 109 of this issue.)

"Beat Electrical Competition With the Facts," appearing below, discusses the current electrical situation and what one association, the Kentucky LPGA, did about it.

AS WE have pointed out many times, the final battle in the competition between electricity and L. P. gas will be fought at the point where the customer's name goes on the dotted line. There are, however, certain pre-conditioning influences at work on the customers which make the final selling easier. We must recognize these influences, offsetting those that are adverse if we can, and creating counter-offenses in our own favor if possible. "Pre-selling" always makes the final sale easier. So far, the pre-selling influences have worked more

to the advantage of the electrical than the L. P. gas industry.

The electrical industry is many years older than ours, and it has become deeply entrenched, not only as the result of deliberately planned work toward that end, but also because of financial and organizational strength, and because the electrical industry has government sponsorship and even direct aid, particularly in the field which is our natural market.

In the equipment field, the electrical industry has the towering strength of General Electric and Westinghouse, two of the nation's most powerful corporations, which have a direct interest in almost everything that happens or is produced in the electrical industry. From powerhouse to the last small appliance, one or the other of these giants is almost certain to be concerned. Their selling influence never stops. Their political pressure in favor of the electrical industry is felt constantly all the way from the national capital to the crossroads villages. The advertising program of either company is larger and more influential than the combined advertising efforts of the entire L. P. gas industry. There is nothing in the gas equipment supply field that even remotely compares in output or resources with these two giants. And in addition, there are numerous independent electrical manufacturers

who are not only strong in their own right, but are banded together with the dominant companies in the National Electrical Manufacturers Association, one of the most powerful trade groups in the nation.

At the utility level, where we meet our direct competition, we also find that there are individual giants and the strength of well developed associations. The nature of electricity is such that wherever there are large concentrations of population, the development of strongly financed power marketing organizations is inevitable. Financial strength and selling strength go hand in hand. Electric utilities naturally developed first in the urban areas, where the investment per customer was lowest. But electric conveniences and labor saving devices are just as desirable on the farm as in the cities. Electricity became an economic necessity in the rural areas, to raise the standards of living so people would stay on farms. Political capital could be created out of this economic need, so the Rural Electrification Program was born.

Bringing electricity to every farm became a crusade, and it was exactly the type of cause that was made to order for the Fair Deal party leaders who were out to entrench themselves through social gains at public expense. They adopted the rural electrification program as their own, combining it with the efforts of the public power groups and the high dam

builders, and bringing in the influence of the other government departments that existed to serve the rural population. That so much of the government's rural electrification program was financed by public taxes, which we will still be paying for many years to come, does not alter the fact that the overall results were highly beneficial to the farmers and to the nation. The present level of rural prosperity, and the desirability of country living, would hardly be possible without the saving of human labor and the softening of life brought about by the coming of electricity to the farm. To a very great extent the demand for the conveniences of gas equipment, and the ability of the rural population to buy it,

of our associations, may eventually straighten this out. Meanwhile there are steps that we can take as individuals and through our state and national associations to lessen the day-by-day influence of the government in competing against us.

The United States Department of Agriculture was the chief task force in putting across the Rural Electrification Administration's crusade. Working directly through the government printing office, and indirectly through the state agricultural experiment stations, the county agents and the home demonstration agents of the state agricultural colleges, and through direct training in universities and colleges, the influence of the rural electrification program was

hold of the electrical industry on the appliance business of the future, we can expect more trouble instead of less.

Fortunately, the set-up is vulnerable at the point where it comes closest to the people—in the public schools, and the public supported universities and colleges. They are responsive to the needs of their communities, and it has been shown in many places, where the effort has been made to bring about corrections, that they will give gas and electricity an equal break if the gas people will point out the numerical importance of the users of gas, and cooperate as well as the electrical industry does in getting equipment into the classroom kitchens for student use.

The L. P. gas dealers in Kentucky have gone into this situation quite thoroughly both as individuals and through their association, and during the year that they have been concentrating on the project they have made remarkable strides. It began a year ago last September, when Kentucky's go-gettin' gal, Frances Holliday, stopped in at the State University in Lexington to find out why the home economists graduating from that institution came out selling electricity and saying nothing favorable about gas. The answer was quite obvious—the classroom kitchens were well equipped with the latest and best electric ranges and other equipment, and there was no modern gas equipment available. The girls were not saying anything good about gas because they did not know anything good. As is generally the case, the department officials were open minded, eager to serve all the people of their state to the best of their ability, and ready to make any changes that the facts would warrant. They had never had the facts.

A great deal of rural Kentucky is served by electric cooperatives. As a means of promoting business these coops publish a farm magazine called *Rural Kentuckian*. A running headline on the front cover says that this publication is circulated to 140,000 rural Kentucky families. There had always been a close working understanding between the coops and the home economists group in the state—they had much in common in trying to improve country living conditions. What the home economists did not



Public schools, responsive to the needs of their communities, will give gas and electricity an even break in their home economics classrooms.

can be traced to improved conditions which electricity brought to the farm. Nobody objects to the results of rural electrification, but there is plenty of justified criticism of some of the methods employed, and of some of the tactics which we now meet in our everyday selling. We are, in effect, fighting the government, and are at the same time forced to pay a part of the cost of the opposition forces.

There is little point in detailing here the unfairness of the competitive situation brought about by the government financing and tax exemption of the REA cooperatives. These conditions can only be equalized by act of congress. Our influence as individuals, and the pressure

brought to practically every farm in the nation.

The electrical manufacturers and local utility companies rode this bandwagon right down the line to the local high schools, where in many cases they were able to establish "all-electric kitchens" in the domestic science classrooms, the objective being to catch their customers young and train them to think that the electric way is the only modern way. The combination of electrical companies, government, and educational system set up a sort of unholy alliance, the result of which is the majority preference for electrical appliances which is apparent in the recent farm surveys of contemplated appliance purchases. Unless we break the strangle

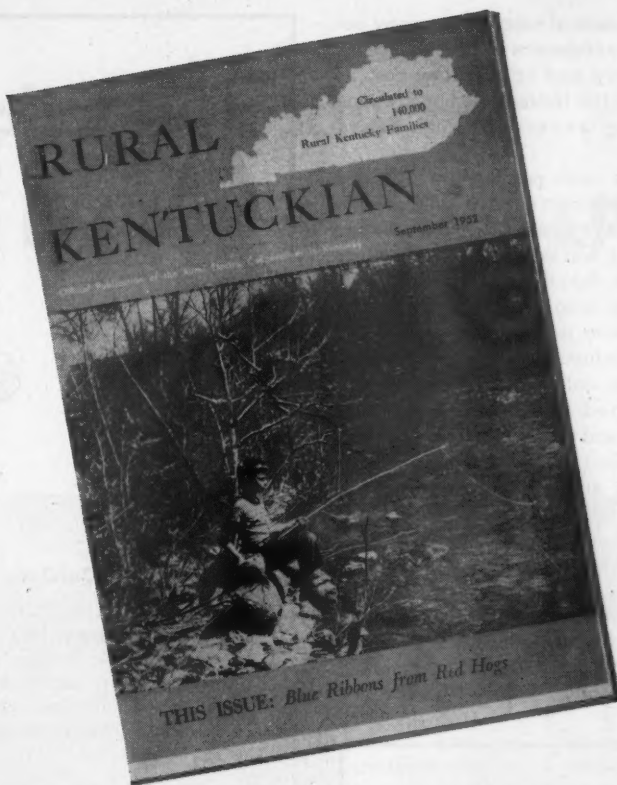
know, and what Frances Holliday pointed out, was that the L. P. gas dealers of Kentucky were serving 300,000 customers in the state—mostly rural. And they were getting no help at all from either the university department of home economics or the extension department's home economics service out in the various counties. The exclusive emphasis on electricity was obviously off the beam, and corrective measures were taken at once.

Conferences between association officials and the home economics service followed, and arrangements were completed to put gas equipment, and competent instruction on L. P. gas in the university facilities. In addition, a program was set up whereby the county home demonstrators were allowed to attend the Kentucky LPGA convention in July, 1953, as guests of the association. Special features of particular interest to the group were provided in the convention program, including displays and demonstrations. The high spot of the day was the very dramatic and entertaining demonstration of gas vs electric cooking put on by Frank Henke and Bill Johnson of Harper-Wyman Co. For the first time in their lives some of the visiting economists learned that electricity was not the only modern way to cook, and that in many respects L. P. gas had advantages that electricity could not even approach.



Promotion Quickie

Demonstrate An Automatic Gas Clothes Dryer—Show the removal of moth ball odors from winter garments by tumbling them in the dryer. Circulation of air through the clothes carries away moth ball odor.



To promote business, Kentucky electric cooperatives publish the Rural Kentuckian, circulated to 140,000 rural families. To counteract its effect the Kentucky LPGA has converted its monthly into a customer periodical.

The reaction of the economists to this program was so favorable that the Kentucky LPGA group was invited to participate in the Farm and Home Week staged by the extension division of the University of Kentucky in February of this year. M. A. Ennis, of the LPGA, was borrowed to provide the headline feature, which was a demonstration entitled, "Cooking Can Be Fun." It was witnessed by 2500 women leaders of the Farm and Home Clubs scattered throughout the state. This is one of the big annual projects of the home demonstrators working in the counties under the extension division, and nearly all of them were in attendance. While it was against the rules to engage in commercialism, Mr. Ennis managed to pass on the information that this demonstration was being made with L. P. gas, just like the fuel so many of the women use in their own kitchens. The cooking demonstration was planned to show the advantages of gas cooking equipment while showing how easy cooking can be.

In the meantime, the Kentucky LPGA outlined and promoted a project to get modern gas cooking equipment in all the rural high schools, and to cooperate with the gas companies in communities having utility gas service to bring the cooking equipment in their schools up to modern standards, and to see that information on L. P. gas was available to all students living beyond the mains.

This movement was not new in Kentucky or any other state—there have been individual companies working along these lines in their own communities for years. What the Kentucky association undertook to do was to make it a statewide movement, and they have made substantial progress toward that goal. The objective is to offset the electrical propaganda by mass training as close to the point of purchase as possible. High school children definitely influence the purchase made by their parents, and youngsters of high school age can be expected to set up homes of their own before too many years have passed. There is probably no

other means of reaching so many potential purchasers of appliances so effectively and at such low cost as through the training demonstrations that they receive in their school work.

It has been pointed out by sales experts that indirect selling by a neutral third party is more convincing, and leaves a more lasting impression, than direct promotion work by those who will profit from the sale. From the standpoint of the L. P. gas industry, that makes it desirable not only to have the schools equipped to use and demonstrate ranges and other appliances using the product, but also to see that the teachers are fully informed on the use of the range so they can teach their students to use it most effectively. This can only be done if the appliances in the schools are of the most modern type. This applies most particularly to the ranges.

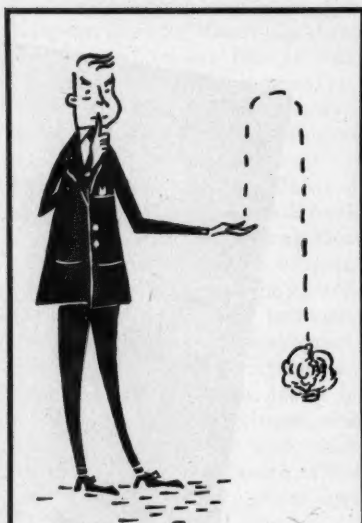
Obviously, it is to the advantage of the local L. P. gas dealer to see

In answer to frequent requests for ideas for the modernization of school classrooms where home economics is taught, the American Gas Association has published a new booklet entitled "Modern Kitchens for Homemaking Programs." Featuring gas-equipped kitchens, the booklet is a working guide to room arrangement and equipment for teaching foods and homemaking.

Included in the 24 pages are current trends in homemaking education, a discussion of equipment for food preparation and laundering, diagrams showing space arrangements for the equipment, and an article on the selection of additional basic furnishings for a home economics classroom.

"Modern Kitchens for Homemaking Programs" also includes a thorough discussion of the gas range and a check list of features to consider in its selection. Similar space is devoted to refrigerators, gas water heaters, clothes dryers and gas-fired incinerators. The 21 illustrations will prove helpful in organizing or re-organizing a home economics classroom.

The booklet is available from American Gas Association, 420 Lexington Ave., New York.



Promotion Quickie

Demonstrate a Gas Refrigerator—Ask audience to be silent while you break lettuce you have taken from refrigerator. Demonstrates effective crispers. "Lettuce is as crisp as a new dollar bill."

that the schools in his service area are equipped with the finest and most up-to-date gas cooking equipment, even though he must carry part or all of the investment himself. It would be a great mistake to permit the installation of a range not of the most modern and efficient type. Some dealers have gone so far as to provide the new range at their expense, replacing it with a new one every two or three years, or as new improvements make the replacement desirable. This expense is not as heavy as it might appear at first glance, as the range that is removed can always be cleaned up and sold for all or most of the dealer's cost. And such a deal helps mightily to maintain the teacher's enthusiasm, particularly if she can be made to feel that she is negotiating a deal on behalf of her students that is very much to her credit.

To counteract the effect of the propaganda barrage in the *Rural Kentuckian* distributed by the Rural Electrical Coops, the Kentucky LPGA has converted the four-page monthly newspaper which they formerly issued as a membership news service into a customer periodical, and made it available for members

to buy in quantities to mail to their customer lists. A substantial part of each month's editorial contents is devoted to experience stories about people in Kentucky who have found that the LPG way is the good way. Other articles are strictly educational, and institutional articles showing the substantial nature of the industry are sometimes used. The use of these newspapers is purely optional on the part of the dealers, but many of the progressive dealers are sending them to all customers.

Like many other states, Kentucky has a strong farm magazine in the *Kentucky Farmer*. The state association is carrying a modest advertising campaign in this paper, which is received by a high percentage of the leading farmers. The magazine is giving good editorial support, the principle problem, as is the case nearly everywhere, being to supply as much newsworthy material as the editors are willing to use.

All of this statewide activity has been planned to create a mental climate that is more friendly and receptive to the work of the individual dealers and distributors. There is no expectation that it will relieve any dealer of the necessity of digging in at the grass roots and selling his products and services. They feel that the state campaign does its job if it makes selling easier, by pre-conditioning the prospect's mind away from the propaganda of the electrical competitors.

There may be nothing new in this program—no doubt all the elements have been carried out in other places. The Kentucky program does have two great advantages. It covers as many phases of the competitive problem as the association is able to with the money and manpower that are available. It is generating a crusade that is building up competitive strength, and which will some day familiarize the people of rural Kentucky with the facts—AND THE FACTS FAVOR L. P. GAS.

Coming

The next article in this series, which will appear in the July issue, will discuss ways to beat electrical competition in new housing projects.

College Produces Electricity—Uses LPG

By Francis S. Hutchins
President, Berea College
Berea, Kentucky

Berea College operates the power plant for the community, using low cost local coal as fuel. College uses L. P. gas where it proves the better fuel.

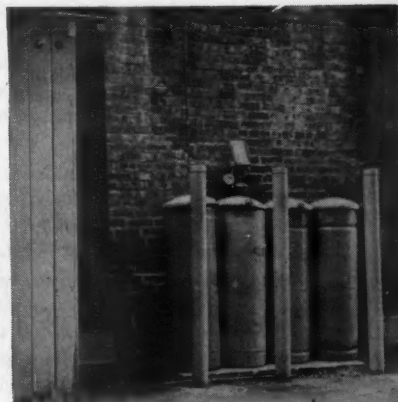
DRIVING down U. S. Highway 25 in Kentucky, about 40 miles south of Lexington, you go through a beautiful, tree-shaded campus with many attractive buildings and you see the sign **BEREA COLLEGE, FOUNDED 1855, VISITORS WELCOME.**

The fame of this college has spread not only through the United States but through many foreign lands because of the success of the Berea idea—the idea that work and study may go hand in hand.

Started in the wilderness almost 100 years ago, the college had to be self-sufficient and practical. The students cleared the timber, chopped wood for cooking and heating. Water was pumped by hand. The lighting system consisted of kerosene lamps.



Typical cylinder installations serving Berea campus buildings (left) at Berea boarding hall and (right) at college bakery.



Berea College had no desire to go into the utility business. Its concern was to give an opportunity to self-reliant mountain youth to secure an education. But if the growing college and community were to have conveniences the college would have to furnish them.

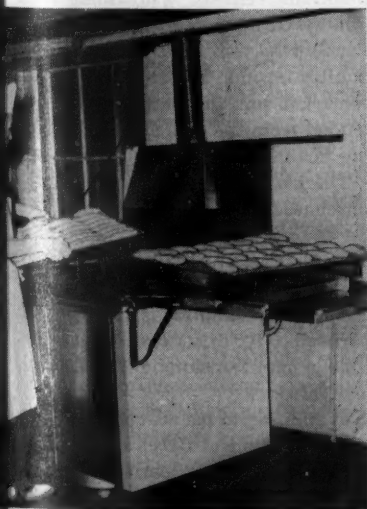
A friend of the college, Dr. D. K. Pearsons, gave the necessary funds for the water system. Next the college started operating a steam powered electric generating plant, supplying current for both the college and the community.

Berea's power plant operated on low-cost local coal and the boilers were connected up to supply steam and hot water to operate the laundry, heat the buildings and meet other utility needs on the campus and in the community. The administration has never aimed to create an outstanding power company. This was merely a means toward helping create an outstanding college.

Berea College is unique among American educational institutions. No student has ever paid tuition. The college serves young people of a given area. Of the enrollment of approximately 1500 students, over 90% come from 230 mountain counties in southern Appalachia. Every cost is kept at the minimum, and the labor program enables students to earn.

Supplying jobs for the growing number of students in a community having almost no other industry than the college is a major undertaking. The college guarantees every student at least 10 hours of work per week. No student works less. To make these jobs possible, the college owns and operates, with student help, 12 student industries: the bakery, Boone Tavern (the college hotel), broomcraft, candy kitchen, dairy, farms and creamery, fireside weaving, mountain weavers, needlecraft, printing shop, and woodcraft.

As in the past, the college main-



Student at work in the Berea College bakery earns while he learns.

Bottlegas Installations

Berea College

Place	Number	Use
Boarding hall	1	Cooking
Commons	1	Cooking
Bakery	1	Doughnut machine
Candy kitchen	1	Cooking
Science buildings	2	Laboratory heat
Home economics	2	Cooking
Printing plant	1	Melting metal
Brooder house	1	Brooding
College country home	1	Refrigeration
Veterans housing unit	22	Cooking, water heating, refrigeration
Rental houses in town	6	Cooking, water heating

tains its practical point of view. When additional equipment is needed, it investigates all angles and with its wide experience chooses the equipment and the power which will serve its purpose best.

The feeding of 1500 students is a sizeable task. This is done in two boarding halls where kitchens are equipped with enormous hotel-type ranges using L. P. gas. The kettles in the candy kitchen and the doughnut machine in the bakery get their heat from gas. At the college printing plant an electric pot for melting type metal has been converted to gas. The reason given was that the gas installation is proof against failure;

the metal will stay hot continuously. With electricity there is a double hazard of possible failure of power, and certain eventual failure of the heating elements. When an element burned out—and it happened—several hours were lost while the pot cooled down enough to permit making the replacement, after which it was necessary to wait more hours for the metal to reheat.

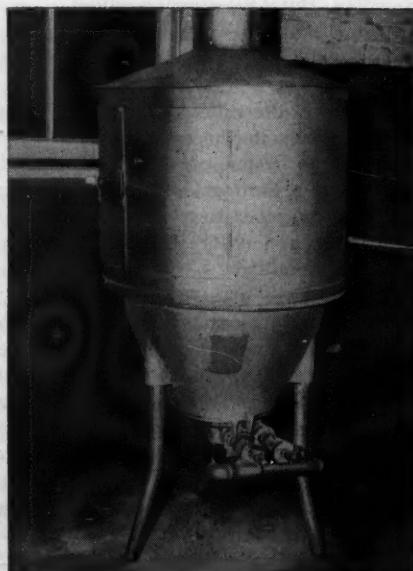
The home economics department uses propane ranges in its food laboratories in order that students may become familiar with all types of fuel and be able to evaluate the merits of each and compare the costs.

Batteries of cylinders supply gas

There are 63 departments at Berea College offering student employment. This girl works in the candy kitchen. College guarantees 10 hours work a week.



Pot for melting type metal at Berea College printing plant. Gas is used to insure continuous heating of metal and to avoid results of possible power failure.



Berea College poultry farm is both a student industry and an agricultural department laboratory. It is new and modern, with automatic watering and feeding facilities, and gas heat.

to the two science buildings, where laboratory and research equipment includes approximately 420 burners ranging from the small bunsen burners in the chemistry laboratories to the sterilizing equipment in the biological laboratory.

The latest gas installation is in the new brooder house on the Berea College poultry farm. This farm is one of the student industries and also serves as a laboratory for the agriculture department. The brooder house is 40-ft wide, 160-ft long. It has automatic watering and feeding facilities, and gas is used for heating. Recently there were 7100 chicks in the brooder house. The incubator on the poultry farm has a capacity of 28,000. This spring 34,000 chicks were sold.

For many years Berea College has directed a portion of its program to the improvement of agriculture as the basic economic activity of the mountain regions. Furnishing high quality chicks is a good way to help farmers in this area increase their poultry income. A visitor in the area remarked that the Berea campus extended from the chapel to the top of the farthest hollow.

The gas used by Berea College is purchased in cylinders from the Berea branch of Farmers Supply Co. of Lexington. It is shipped over from the Pyrofax plant at Lawrenceburg. Since its consumption is in the neighborhood of 400 cylinders per year, the college gets the supplier's best commercial rate.

In addition to his academic studies every student at Berea College has the opportunity to learn by experience through practical participation in the various business activities of the college.



Dri-Gas district manager and dealer (right) talk to prospects at the state fair in Du Quoin, Ill.

State and County Fairs Are Selling Grounds for the Farm Market

By Benedict Kruse

IN selling their prime farm market, L. P. gas distributors and dealers do well to frequent the places where farm folk are likely to turn out in their most interested buying moods. Those places are state and county fairs.

Several years of experience in a program of exhibiting at agricultural fairs has convinced the Dri-Gas Co. of Chicago, a division of the Warren Petroleum Corp., to the extent that this firm is now appropriating approximately 15% of its total advertising budget for these fair activities. Furthermore, J. Arthur Jenkisson, the firm's sales promotion and advertising manager, spends more than 20% of his annual working time on this program, as does one of his regular assistants. In addition, all Dri-Gas district managers operate on a plan which calls for them to be present for at least several hours every day whenever a local dealer in their territory sponsors an exhibit at a county fair.

State fairs are a "natural" for Dri-

Gas, which distributes its products through what is probably the richest and most productive farm belt in the world. The firm began operating in Illinois in the early '30s, expanding gradually but steadily as marketing conditions warranted. In addition to supplying fuel, Dri-Gas also acts as wholesale distributor for a full line of gas heaters, appliances and carburetion conversion kits.

Today, the Dri-Gas marketing area, in addition to Illinois, includes all or portions of Indiana, Wisconsin, Michigan, Ohio, and Iowa, and a foothold in Kentucky. Dri-Gas products are now sold by a network of more than 600 dealers. Further distribution is effected through seven company-operated stores. These outlets are served from 13 major bulk plants, one of them at Eola, Ill., boasting facilities which include underground storage tanks holding 2 million gal. of L. P. gas.

As the fair program works out, the company itself undertakes all details and expenses connected with partici-

pation in the three major state fairs in its trading area—Illinois, Indiana, and Wisconsin. Individual dealers are encouraged to take part in their local county fairs with full assurances that Dri-Gas will cooperate by providing display material and assuming a share of the expenses.

The Dri-Gas state fair display for 1953, according to Mr. Jenkisson, offers a good illustration of the functioning of this phase of the program.

The displays used at the fair have always been prepared especially for Dri-Gas by a professional studio—Amlin Associates of Chicago. On the basis of three years' experience from 1950 to 1952, it was decided in 1953 to arrange for professionals from this studio to come along and supervise the setting up and breaking down of the display.

It is a matter of policy, at both state and county fairs, that Dri-Gas displays shall always be set up indoors wherever possible, and that contracted space be situated in one of the main buildings on the fair grounds. This helps guarantee the most favorable traffic flow. Indoor exhibits invariably get the heaviest flow during peak heats of sunny summer days. They also have whatever traffic there is all to themselves on rainy days.

The displays always correspond with some festive presentation theme. For example, the display used in Illinois and Indiana in 1953 and scheduled for Wisconsin in 1954 was keyed to a circus motif. The walls were covered with long, loud, red and white stripes with a matching canape topping this off.

The interior display portion of this exhibit was divided into three main sections. The central portion was devoted to a fully furnished and equipped model of a five-room home, complete throughout with scaled L.

P. gas appliances ranging from four to six inches in height. Outside the house were models of alternate installations—tanks and bottles.

The other two portions of the exhibit were available for displays of the appliances themselves. Also included were demonstration material and literature on L. P. gas for carburetion.

At the front of the display, some attention-getting antic was going on almost all the time. Chief crowd stopper was Happy, a professional clown, who performed magic tricks, did bal-

dealers made a point of inviting customers and prospects to visit the Dri-Gas display on a given day or afternoon. They themselves made arrangements to be at the exhibit at these specified times.

Following a practice that is standard procedure at both state and county fairs, the names and addresses of visitors who showed special interest in any of the products displayed were noted on regular prospect cards, to be passed on to the dealers in the area where the customers lived. Mr. Jenkisson describes these prospect cards

both financially and with exhibit material and personnel.

The best illustration of the effective functioning of this program, according to Mr. Jenkisson, can be seen in the set-up at the 1953 DuQuoin fair in southern Illinois. This particular event is a regional rather than a county fair, catering to a wide area in southern Illinois.

As the time approached for the 1953 DuQuoin fair, 10 Dri-Gas dealers got together and came up with a plan for joint sponsorship of a display there. On the basis of this com-



The interior Dri-Gas display used at the fairs in Illinois and Indiana in 1953 contained a fully furnished and equipped model house.



Life-size appliances surrounded the model house which contained miniatures of L. P. gas appliances ranging from four to six inches in height.

ancing acts atop tractors, and gave out balloons for the kiddies every hour on the hour.

Another favorite with the children was a plastic model of the pickup trucks used in Dri-Gas bottle deliveries. Built exactly to scale and including leather seats, these trucks were a popular seller at \$1.95. At this rate, they helped serve a dual role of defraying expenses and also of spreading Dri-Gas advertising. These model trucks were available to Dri-Gas dealers at \$15 a dozen.

Dri-Gas dealers in the vicinity of the fairs were invited to take advantage of the exhibit facilities. Several

as an important direct link between his firm, the dealers and the consumers. The cards have proven themselves beyond question, he reports, in the direct sale of both appliances and fuel. Furthermore, they are important in creating dealer confidence that Dri-Gas is backing them up in helping to move the products it distributes.

The same idea of dealer cooperation is the basis of the Dri-Gas county fair program. Individual dealers or groups of dealers are invited to work directly with fair officials in arranging for displays with the full assurance that Dri-Gas will back them

bined effort, the project shaped up large enough so that the Dri-Gas home office moved to back it by sending down a full-scale state fair exhibit and by making available a group of Dri-Gas specialists for staggered duty on the exhibit floor throughout the fair. With the dealers agreeing to devote the entire display to Dri-Gas products, they were able to reach an agreement under which Dri-Gas took a full 50% of the tab for the entire promotion, leaving the dealers to split the other half of the expenses 10 ways.

The DuQuoin fair, although the largest of its type within this pro-

gram, illustrates only a small part of the overall county fair effort. During the summer of 1953, Mr. Jenkisson reports, Dri-Gas worked with its dealers in helping to sponsor 63 separate fair displays at this level.

In reviewing the county fair program, Mr. Jenkisson indicates that his company's efforts go much further than financial support. It is a special duty of the Dri-Gas district managers to see that they themselves put in some time on the floor at every display in their territory. In setting up these floor schedules, they work

room. If the dealers have room for and want background signs to be used in their exhibits, they can get help on this score directly from their Dri-Gas district manager. Each of these men is given a kit of signs identical to those used on Dri-Gas trucks. These are 88-in. wide replicas of the billboards that Dri-Gas uses so widely throughout its sales territory. In addition, district managers are authorized to have special signs painted in cases where it appears necessary.

For larger local or county fairs—especially where the fair grounds in-

rule, trucks to be used for these events have the name of the local dealer mounted on them.

Evidence of the soundness of this type of advertising can be seen in considering Dri-Gas' progress with its state and county fair program. Fair participation was begun warily in 1950 with relatively small exploratory efforts. By 1953 the program has assumed major proportions.

The reason for this rapid expansion, and for further increases in 1954, comes in a simple, dollars-and-cents answer. Dri-Gas sales have in-



Chief attention-getter was Happy, the clown, who performed magic tricks and did balancing acts atop tractors. A professional entertainer, he kept audiences constantly amused.



Plastic models of Dri-Gas pickup trucks were displayed at the fair. Built to scale and sold for \$1.95, they were a favorite with the children.

in cooperation with the dealers, arranging their time to correspond as closely as possible to the anticipated traffic flow.

Once arrangements have been completed for fair participation, each dealer receives a special promotion kit from Dri-Gas. The kits include mats for newspaper ads, literature on both the fuel and appliances for distribution at the fair and a case of matches with Dri-Gas imprints to be handed out at the exhibit.

As a general rule, all of the appliances and demonstration equipment used at the county fair displays come from the dealer's warehouse or show-

clude exhibit buildings—Dri-Gas will ship portions of state fair displays from previous years. With new displays set up every year, the firm keeps its old exhibits in storage for several seasons especially for this purpose.

Dri-Gas cooperation also extends to any special events which may be conducted in conjunction with the county fairs. Foremost among these events are parades, which are frequently opening day features. Dri-Gas seldom refuses a request to make available one of its tank or straight body delivery trucks to participate in a county fair parade. As a general

creased steadily, doubling on volume since 1946. And sales which could be attributed directly to state and county fair influences have been notable.

It is difficult, Mr. Jenkisson reports, to put exact dollar values on sales resulting from fair promotions. However, a good idea of the results which have been produced to date can be seen in the fact that the three company-sponsored state fair exhibits in 1953 produced no less than 150,000 active prospect cards.

The total number of people attending the more than 60 county fairs runs, literally, into the millions. And sales, it has turned out, follow suit.

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exclusive

PART 7

Servicing Control Equipment

By Robert Wilson

Service Manager
Minneapolis-Honeywell
Regulator Co.
Appliance Controls Division
Los Angeles, Calif.

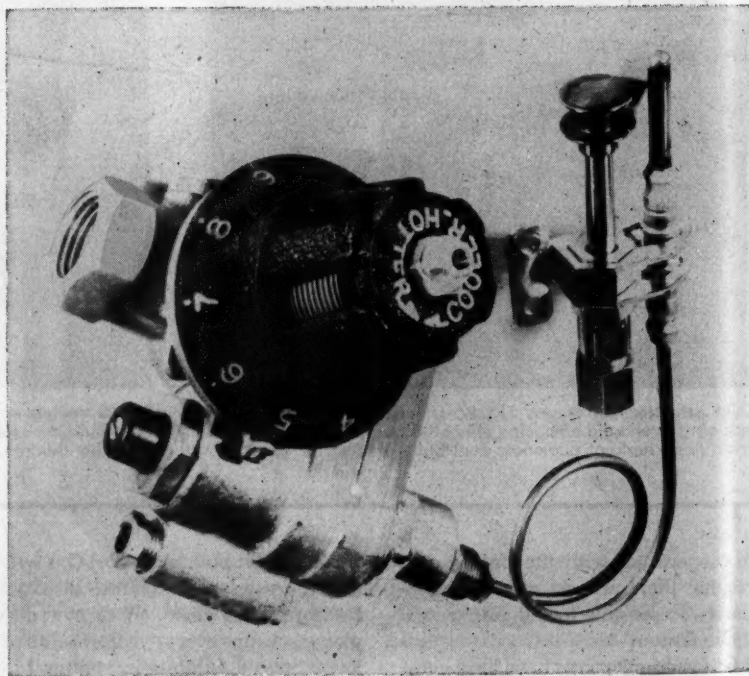
This is the final article in a series dealing with the servicing of control equipment. Part 6, which appeared in the May issue of BUTANE-PROPANE News, dealt with hot water heater thermostats, conditions affecting their operation, and general application, adjustment and servicing.

Part 7 of this series, below, deals with space heater controls, particularly those three models manufactured by Minneapolis-Honeywell which differ from the average controls—Models V5140, V5163 and V5151.

WHILE there have been several articles written on the installation and servicing of heating controls, we in the Minneapolis-Honeywell Regulator Co. appliance controls division, manufacture three models of heating controls that differ from the average wall-type thermostat in several respects.

It is with these three model controls, namely, the V5140, the V5163, and the V5151 that this article will deal.

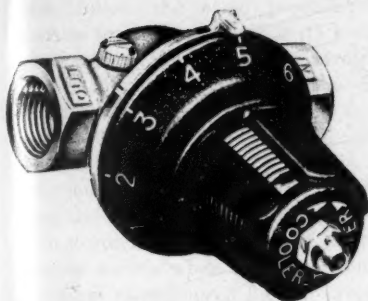
The model V5140 and V5163 controls are both modulating thermostats



operated by a vapor-filled bellows mounted on the side of the valves. These controls are AGA approved for use with all gases and were designed primarily for wall-type heaters or console space heaters. These two controls, being the same design, will be treated as one in explaining service procedure. The big difference between these thermostats is that the

V5140 controls will be installed in conjunction with 100% automatic pilot on all LPG installations, while the V5163 control has the 100% automatic pilot feature built into the control as an integral part.

The V5151 Modusnap thermostatic gas valve is entirely different from the V5140 or the V5163. It is a combination of two valves in a single unit



Model V5140

operating in sequence: a modulating valve which throttles the gas flow between a fixed or set minimum rate input and a full burner capacity and a snap-action valve which cuts off the minimum rate gas flow, to maintain the room temperature and satisfy comfort requirements. The valve is also provided with a minimum rate orifice so that the minimum gas flow can be set to the exact requirements from the standpoint of safe lighting of the particular heater to which it is applied.

Before concerning ourselves with the actual service adjustments of heating control, we should review some of the remote conditions which might have an influence on thermostatic operation, and discuss briefly how such conditions affect control performance. Basically there are two prerequisites to proper thermostatic operation: proper installation of the appliance and proper adjustment at the time the appliance is installed.

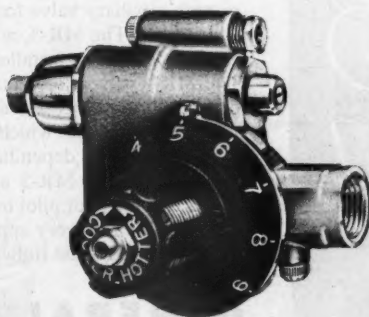
Let us take the installation of a heater using any of the above controls and see how some service problems can be avoided. We must assume, of course, that the heater will be installed in an approved manner, complying with existing codes and ordinances. When connecting the gas line to the thermostat, future service problems can be eliminated by simply removing any sand, scale, filings, and foreign matter from the line before the connection is made. Experience has shown that in a great many instances gas valves failing to close completely are directly traceable to such foreign matter lodging under the valve. This results in the failure of the main burner to shut off, causing excess overheating.

Pipe dope improperly applied can also cause future service problems. The proper amount and type of applicant should be made to the thread-

ed end of the male fitting, never to the female fitting, leaving the first two or three threads bare. This procedure will forestall the possibility of excess pipe dope drying out and eventually passing into the working mechanism of the control. A compound such as red lead, white lead or paint are not recommended as sealing compounds.

Another phase in connecting the heater which causes service problems is the tension, or pull, when the installer is making up the gas line connecting to the thermostat. Such tension causes distortion of closely engineered tolerances in the thermostat casting and may even lead to gas leaks in the thermostat.

Thus, we see that by following the very simple precautions of cleaning the lines and obtaining the proper length of pipe and nipples in making



Model V5163

the connection, a good many service calls can be eliminated.

• Model V5163

In looking at the service problems on the V5163 control, it should first be pointed out that these controls, being a modulating thermostat, never close all the gas to the main burner, even though the main thermostatic valve closes due to the bellows sensing the set temperatures.

The main valve modulates closed. The minimum flame or by-pass then takes over to allow the temperature to remain constant. If, however, the temperature around the bellows falls below the set temperature on the dial the main burner flame will again modulate higher to offset the drop in temperature of the room. The by-pass adjustment controlling the minimum flame is set by the heater manufacturer and should not be changed.

In the case of a replacement, however, the V5140 or V5163 supplied is shipped with an adjustable by-pass set in the open position. It must be adjusted to suit the heater which the valve is to control. The adjustment is made as follows: Remove cap and washer G (Fig. 1) exposing the by-pass screw. Light the pilot and main burner in accordance with heater manufacturers' instructions. When room is at desired warmth, turn dial to No. 1 and with a small bitted screw driver, turn the by-pass screw clockwise until burner flame is smallest safe size, being sure all burner ports remain lighted. Close off the gas supply to the heater manually and allow the burner to cool down. Then re-light pilot with dial set at No. 1, double check the minimum flame adjustment by making sure the main burner lights off smoothly without a flash back. If main burner light off is not smooth, re-adjust by-pass screw to increase gas flow at the minimum fire position. Set the dial at whatever number produces the desired temperature and replace the cap G.

Calibration of Thermostat

Models V5140 and V5163 are carefully tested and calibrated at the factory so that, with the temperature dial set at No. 5, the control will maintain a room temperature in the range of 69° to 73° F. If, however, it becomes necessary to recalibrate the control in the field the following procedure should follow: Loosen the locknut N (Fig. 1) and while holding the temperature dial so it will not turn, with a small bitted screw driver turn the adjusting screw counter-clockwise to increase the temperature and clockwise to decrease the temperature setting. Tighten the locknut.

In cases where the appliance is to be operated at high altitudes, it may be necessary to recalibrate, in which

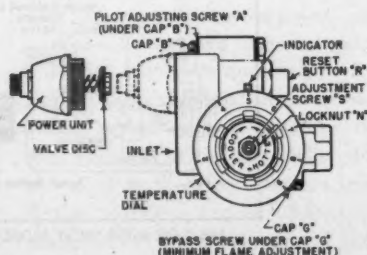
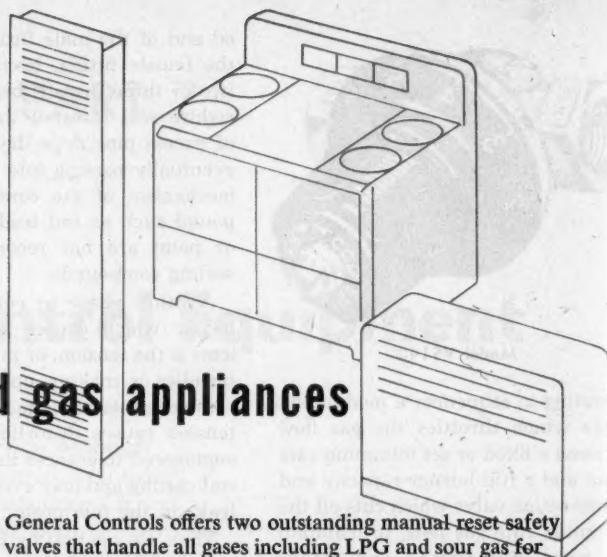


Fig. 1

Compact dependable safety shutoff

for heating and gas appliances

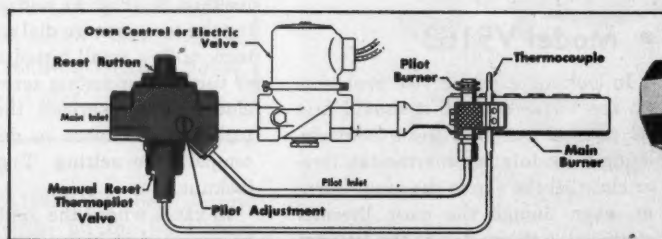


General Controls *MIR-3* and *MIR-4* Manual Reset Thermopilot Safety Valves

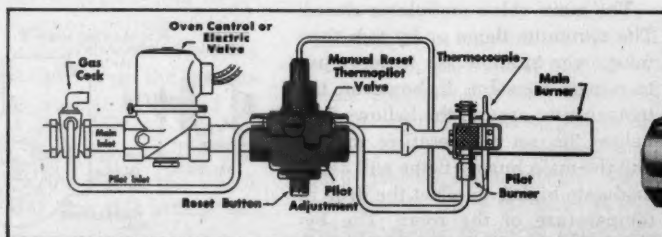
General Controls offers two outstanding manual reset safety valves that handle all gases including LPG and sour gas for gas-fired appliances such as ranges, room heaters, ovens and boilers. Available in $\frac{1}{4}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " IPS or for $\frac{3}{8}$ " or $\frac{7}{16}$ " tube connections, the MR-3 and MR-4 thermomagnetic push button reset valves are available with pilot take-off, without pilot take-off or with auxiliary valve for independent pilot flow and pilot adjustment. The MR-3, a nonflow interrupting type with 100% gas shutoff, can be installed upstream of the automatic valve. The MR-4 valve is identical, however, it includes flow interruption during pilot reset. MR-3 and MR-4 valves are powered by a single thermocouple which supplies necessary operating current. For compactness, dependability choose the A. G. A. approved General Controls MR-3 and MR-4 Manual Reset Thermopilot valves. A variety of pilot burners and thermocouple combinations are available for every appliance application. For further information, request Bulletin 608.170.

GENERAL CONTROLS

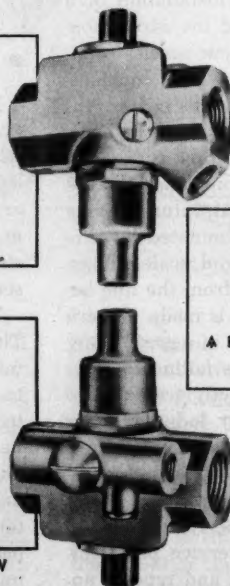
Plants in: Glendale, Calif., Burbank, Calif., Skokie, Ill.
Factory Branches in 37 Principal Cities
SEE YOUR CLASSIFIED TELEPHONE DIRECTORY



MR-3 OR MR-4 WITH PILOT TAKEOFF



MR-3 OR MR-4 WITH AUXILIARY VALVE FOR INDEPENDENT PILOT FLOW



Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls for Heating, Home Appliances, Refrigeration, Industrial and Aircraft Applications

case, follow the same procedure. Loosen the locknut N (Fig. 1) and while holding the dial to keep it from turning, turn the adjusting screw S counter-clockwise one-half turn for every 1000 ft above sea level. Tighten the locknut.

In some instances it may be found that the valve has been tampered with so you do not know how it is set. Choose a time when the room temperature, as measured by a reliable thermometer, has been quite constant and approximately 70° for at least a half hour. Set the dial at No. 5 and loosen locknut N (Fig. 1). Hold dial to keep it from turning while you turn adjusting screw S (Fig. 1) in or out until burner flame is about half way between full on and minimum (by-pass) size. Tighten locknut. Rotate dial from 1 to 9 a few times to make sure the instrument is working properly. Reset dial at 5 and



Model V5151

check room temperature again later on, adjusting if necessary.

As previously explained, the service problems and procedures as outlined above will apply to the V5140 as well as the V5163. The V5163 thermostat incorporates a thermomagnetic 100% safety feature which is not found on the V5140.

Pilot Adjustment

The pilot adjustment should be made by first removing the pilot adjusting cap B (Fig. 1) and turning the pilot adjusting screw A counter-clockwise to increase pilot flame size or clockwise to decrease. If an air shutter is provided on the pilot burner, it should be adjusted so a blue flame approximately 1/2 in. bathes the thermocouple.

Thermomagnetic Pilot

Before discussing the service problems on the safety feature of the V5163, perhaps an explanation of the function of the thermocouple and electro-magnet would be in order.

To better understand the function of the thermocouple, let us examine its construction. The thermocouple is constructed of two dissimilar metals, one a tubular piece surrounding an inner solid element, the two touching only at the end where they are welded together. This welded joint is called the "hot junction" because it is the point heated by the pilot flame. The outer element is brazed to a brass connector sleeve which is in turn brazed to a copper tube. Inside the copper tube is an asbestos insulated copper wire which is brazed to the inner element of the

thermocouple. The connector can be cleaned by using the rubber eraser of a lead pencil or brushing the cone with a plain calling card. The nut on the thermocouple lead connecting the lead to the electro-magnet should also be tight. Any sharp bend should be avoided on the thermocouple lead, as it might short the lead, thereby rendering it defective.

The electro-magnet or power unit, if inoperative, is replaceable in the field by disassembling the thermocouple from the power unit (by loosening the nut on the thermocouple). The power unit can be disassembled from the body of the control and a new unit installed. Assemble the thermocouple and tighten the nut. While it is not mandatory to use a millivolt meter to check the thermocouple and power unit, it will certainly take the guess work out of trouble shooting.

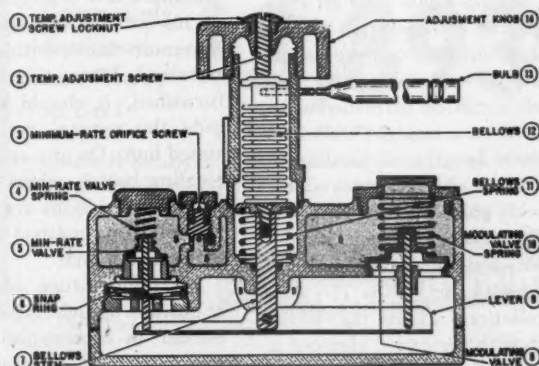


Fig. 2

thermocouple. This brazed joint, together with the brazed joint between connector sleeve and the outer thermocouple element, form the "cold junction" of the thermocouple. When the hot junction is heated and the cold junction remains at a lower temperature, an electric current is set up. This current is conducted by the copper leads to the electro-magnet, which is thus energized as long as the current continues to flow. Production of electric current ceases when the pilot flame no longer heats the thermocouple.

While the thermocouple will usually give long and trouble-free service, there are a few points to remember at the time of installation or service. The thermocouple connector should be clean and free from corro-

Automatic Pilot

The automatic pilot should completely shut off all gas to the main burner as well as the pilot burner in case of pilot outage. If it does not, the valve seat of the automatic pilot is probably dirty.

To clean the valve seat, shut off the main gas cock and disconnect the thermocouple lead from the power unit (Fig. 1). Remove the power unit and clean the valve disc and valve seat with a lint-free material, preferably a clean chamois. Do not disassemble power unit. Re-assemble, being careful to avoid nicks and scratches as these can cause a leak. If the trouble is not eliminated, replacement of the power unit is indicated.

• Model V5151 Modusnap

In looking at the field service problems of the V5151 Modusnap thermostat, it would be well to look first at the operation of the control. The actuating element of the Modusnap, a bellows is connected to the bulb (temperature sensing element) by a capillary tube. The bulb-tubing-bellows combination is completely filled with a temperature-sensitive liquid. Increasing temperatures in the air surrounding the bulb create an expansion of the liquid in the bellows to actuate the valve. Due to the small percentage of total fill in the bellows and capillary, the control is not appreciably affected by temperatures other than that at the bulb location and since it is a solid fill the instrument calibration is not affected by changes in altitude.

The Modusnap is manufactured in two models. The V5151A has a temperature setting knob with an indicator dial. The control knob on the V5151B has, instead, a yoke to accommodate a 1/4-in. extension rod. Both models can be furnished with either a coil or a straight bulb and with various lengths of capillaries. All models are AGA approved for use with all gases. On installations where 100% safety feature is mandatory, a 100% automatic pilot must be used along with the V5151.

In installations where the V5151 Modusnap with the coiled element is used, do not under any circumstances bend or straighten the element. To do so will change the calibration. Do not attempt to use the last two turns of the capillary tubing surrounding the bellows housing of either model. They are there to provide a strain release connection to the bellows.

Operation of Valve

The Modusnap being a two-valve control, the operation briefly is as follows: While the bellows is cool, both valves are open and allowing full gas capacity to flow to the main burner; as the air temperature around the bulb begins to warm up the bellows start to close the modulating valve. As the temperature of the room nears the dial setting the modulating valve closes. The minimum rate valve remains open to maintain the set temperature. If,

however, the room temperature increases slightly the minimum rate valve snaps off. Then as the room temperature falls and the thermostat calls for heat the minimum rate valve will snap on first; if the minimum rate flame will not bring the room temperature up to the set temperature the modulating valve will open to allow more gas to flow to the main burner to pick up the lagging temperature.

In cold or severe weather the V5151 Modusnap may operate entirely in the modulating range for extended periods of time, dropping down to the minimum flow only occasionally and shutting off completely only when the room temperature requirement is satisfied.

Adjustment and Service

The minimum flame setting is a very important part of the V5151 installation. In most cases, the heater manufacturer furnishes a predrilled minimum rate orifice, No. 3 (Fig. 2), or his instructions specify how the minimum flame setting is to be determined. When this information is furnished, it should always supersede the general recommendations stated here. On any application to an existing heater, where the manufacturers' instructions are not available, the following method of adjustment is recommended:

Set temperature adjustment dial at position 9. Light the pilot and main burner in accordance with the instructions on the heater. The burner should now be firing at the maximum input. When the room air temperature has risen to a comfortable level, turn the temperature dial clockwise (toward position 1) until the V5151 snaps closed. Now rotate the dial counter-clockwise slowly until the valve just snaps open. Leave the temperature dial at this setting and adjust the minimum flame as follows: Remove the cap over the minimum-rate orifice screw and with a small screw driver turn the orifice screw No. 3 (Fig. 2) slowly clockwise until the burner flame has lowered to its smallest safe size, making certain that all burner ports remain lighted, and that there is no tendency to "flash-back" and burn at the main burner orifice.

Turn the dial clockwise to position 1. The burner should now be off. Leave in this position for a sufficient

time to allow the heater to cool completely. Rotate the dial slowly counter-clockwise until the valve just snaps open. The main burner should light off smoothly without flash-back and all burner ports should light and remain lighted. If the operation is not as described, the minimum-rate orifice screw should be backed out an additional amount sufficient to assure proper and safe ignition on several repeated tests. Replace cap over the minimum-rate orifice screw and tighten it securely.

Calibration

The V5151 Modusnap is carefully tested and calibrated at the factory so that with the temperature dial set at No. 4 it will maintain the air temperature surrounding the sensing element (the bulb) at 75° F. Each division of the temperature dial represents 5° F. The temperature adjusting screw is located in the center of the temperature dial, 2 (Fig. 2), and the adjustment setting is maintained by a locknut, 1 (Fig. 2). It should not be necessary to change the adjustment unless the control has been tampered with, in which case the procedure is as follows: Choose a time when the air temperature around the bulb or sensing element, as measured by a reliable thermometer, has been quite constant for about a half hour. Loosen the locknut and turn the dial to the room temperature. (The dial is marked in equal divisions from 1 to 9 and has a range from 60° to 100°.) Turn the adjustment screw (in the center of the locknut) until the burner just shuts off. Then tighten the locknut and recheck setting by turning dial to selected temperature and note the air temperature now maintained at the thermometer.

• Summary

In general summary, the service department records of both appliance manufacturers and control manufacturers reveal that a big percentage of controls returned as inoperative, are actually returned due to lack of service information channeled to a field level. A lengthy article of this nature is not meant to imply that controls require a great deal of service, but rather in the hope of providing a continual flow of information to the field man.

Buy Ahead of Your Season and Save the Most on this **Nor-Tex** Standard Twin

Take advantage now of this opportunity to buy at greater savings the Nor-Tex "Package Units" you'll be needing this fall. The prices speak for themselves! The Nor-Tex Standard Twin Package Unit is one of the very best investments you can make. The Payloader and the De Luxe Twin "Package Units" are also drastically reduced. Act now!

LOWER OPERATING COST

"Perfect Balance" with no unnecessary bulk means lower fuel cost, greater tire mileage, less chassis strain and less engine wear. Nor-Tex users are setting new records in economy, profitable pay loads and low cost maintenance. Safety margins far exceed code requirements.

HIGHER EARNING ABILITY

This Nor-Tex "Package Unit" loads, delivers and dispenses LP-Gas with greater speed. The EXTRA room and convenient arrangement of fittings, valves and gauges enable you to deliver more gas with less effort. Exclusive piping permits full flow transfer into or out of tank.

LOWER DELIVERY PRICE

There's no wasting money on "too much truck" or sacrificing efficiency with "too little truck" here! The Nor-Tex Standard Twin is factory matched to the job! Skillful engineering has made possible this sleek, lightweight, low-cost "Package Unit."

Built Especially For PROFIT-MINDED LP-GAS DEALERS

From the tank right on down to the wheels and tires (7:50 Front — 8:25 Rear) the Nor-Tex Standard Twin is specially fitted for the job it has to do. This 1400 WG Nor-Tex Standard Twin Propane Unit is mounted on a new 1954 GMC-303 truck. Its sensational high compression, greater horse power motor gives you power to spare. One low purchase price includes all these EXTRAS: It is skirted, plumbed and perfectly balanced. It comes complete with Recessed Fuel Tank, Viking KK 190 Pump with Mechanical Seal, 50' Filler Hose, ICC Lights, Power Take-off with Spline Jack Shaft. The finish is Aluminum Paint over Red Oxide. This carefully planned "Package Unit" can't be beat for value!

Completely
Equipped
and Ready
to Go!

\$3,893⁸⁰

EXCISE TAX PAID

Immediate delivery on Package Units can be had on the Nor-Tex Standard Twin, the De Luxe Twin or the Payloader in sizes up to 1800 WG on new Reo, Ford, Chevrolet, International or GMC chassis.

**WE ARE AUTHORIZED
TRUCK DISTRIBUTORS**



WRITE, WIRE
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Nor-Tex
PRODUCTS
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Balance Your
Load the
Nor-Tex Way
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Finance the
Balance

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1954 NOR-TEX
STANDARD TWIN ON
GMC-303

★ 2 Speed Axle



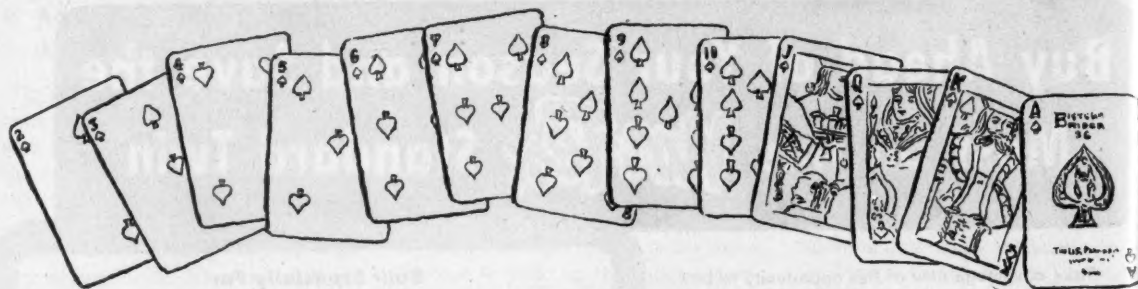
NORTH TEXAS TANK CO.

P. O. BOX 1219

DENTON, TEXAS

CENTRAL 5416

Manufacturers of Fine LPG Equipment



Suburban - U. D. I. Plays 13 Trumps

PROMOTION-MINDED Suburban Utilities Distributors Inc. of Portland, Maine, is playing a 13-trump hand in the game of boosting dealer sales. Last year it paid off in a 47% increase in the dollars spent by dealers on co-operative advertising.

Ralph Worthing, advertising manager of Suburban, says the increase is continuing into this year and the company looks for a corresponding boost in the sales of bottled gas and appliances.

The 13 trump cards, which are dealt to Suburban dealers from Fort Kent and Eastport, Maine, to Hartford, Conn., are actually a fresh presentation of some old and some new ideas for promoting sales. This driver's seat bridge hand sums up the continuing supply of ammunition furnished to Utility-Gas and appliance

dealers by the company in easy-to-read and stimulating form.

Mr. Worthing says the idea was worked out with the Simonds Payson advertising agency of Portland as a fresh approach to putting over the whole program at once. The idea has brought results and already, since the distribution of this full hand, Suburban has added new cards.

The first three trumps are played for home economics education. The first mailing of educational material for Utility-Gas and appliances was sent out to home economics teachers throughout New England in 1952. The fifth mailing was just recently distributed.

Trump No. 2, free classroom demonstration of automatic gas cooking, is one of the most powerful of the cards. "Sell them gas today while

they are still in school," says Suburban.

Stuart Carrington, promotion manager for Suburban, explains how the classroom demonstrations are handled. They usually begin with a visit by the dealer and Suburban's district manager to the local home economics teacher.

"We discovered," says Mr. Carrington, "that the electrical boys had been doing a beautiful job." The classroom would be equipped with modern, gleaming electric equipment. Over in the corner would be an old, unused gas range, or no gas range at all.

"Nearly every teacher will accept an invitation to have the gas company put on a free demonstration of fully-automatic gas cooking though," says Mr. Carrington.

The latest model gas range is set up wherever it will be most convenient in the school. The demonstration is conducted by two or three people from Suburban's home office, the local dealer and his district manager. Early afternoon seems to be the best time for the demonstration.

"We bake some cookies and broil hamburgers to demonstrate different parts of the range," says Mr. Carrington. Then the food is passed around and questions answered.

Mothers of girls in the class and other teachers generally attend, and in a number of cases Suburban's demonstration team arrives to find that every girl in the high school has been excused from other classes to attend the demonstration.

The demonstrations are always well received and, Mr. Carrington reports, "very, very effective" in making future sales.

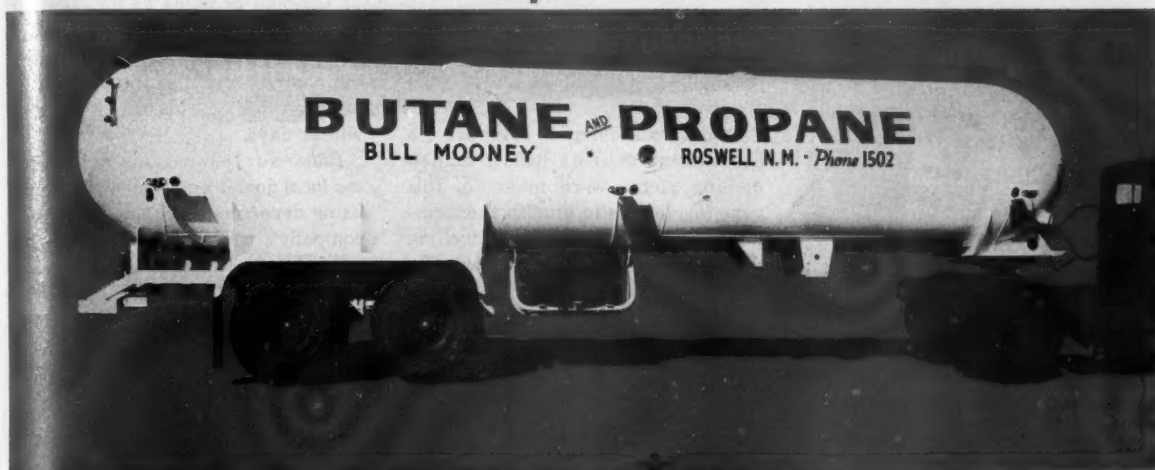
Trump No. 3 is played next. Most teachers will agree that it is unfair



Suburban-U.D.I. continues to deal new trump cards. It standardized a truck pointing and lettering design for its dealers, and inaugurated a share-the-cost campaign to help dealers repaint their trucks.

highest payload*

ever!



250 lb. Working Pressure Tank
on 11,500 lb. Autocar, to provide
reserve power for mountain roads.
(6950 Gal. Capacity, 72 and 3/4" dia.)

Higher payload -
low initial cost
adds up to
low mileage cost

If you haul big gallonage over long distances, you need the LMC Giant. You'll be convinced, once you've checked the payload, tested the road stability and have seen how all of LMC's safety features and operating conveniences are incorporated in this huge transport tank. From the biggest to the smallest, wherever you transport LP-Gas, you'll find an LMC Transport Tank to fit your needs at prices and terms that fit your operating budget.



Buy on the LMC budget plan!

WRITE FOR ADDITIONAL INFORMATION, PRICES AND PAYLOADS

LUBBOCK MACHINE & SUPPLY CO



P. O. DRAWER 1589

PHONE 3-4631

LUBBOCK, TEXAS



Suburban-U.D.I.'s New England treasure calendar sells Utility-Gas 365 days a year. Calendar has 12 pictures and 12 treasure recipes.

not to train girls to cook with both modern fuels. So after the demonstration a call is made on the city fathers in charge of purchasing school equipment.

Under Suburban's arrangement, the local dealer can then offer to place a fully-automatic gas range in the school at about 50% of the list price. Every year thereafter the dealer replaces the range with the newest model at no added cost to the school.

This plan sells gas and influences future homemakers in their choice of cooking fuel, and there's always a customer waiting to buy last year's classroom range from the dealer—usually a girl who has learned to cook on it and has been sold on L. P. gas.

Mr. Carrington says that about the only stumbling block encountered in getting the first range installed in a classroom is the town's school budget. But even six months or a year later, allowing for a new budget to be made up, the school will buy.

Neither the dealer nor Suburban make a cent on the first range. The pay-off is in the future, and the future keeps paying off.

Trump No. 4, the Utility-Gas treasure calendar, sells gas 365 days in the year. This is a good looking, folding calendar with rotogravure-tone

photographs of historic sites and landscapes of New England. There are two photographs from each of the six states served by Suburban-U.D.I. An added feature of the calendar is the treasure recipe—one each month.

About 40,000 copies of the company's 1954 calendar were distributed under the co-op purchase plan with dealers. This year's calendar was the company's original effort and they have had the design and content copywritten.

Direct mail folders in color are the fifth trump. About half a million mailing pieces were made up this year for dealers to give to their customers and prospects. These include the spring and fall folders, and also

this ad to be the most popular of all the monthly specials with dealers. When they use this ad in the spring, at a time when people are thinking about their summer homes, they can almost guarantee that every dealer will use the ad of that month.

Another ad that takes advantage of seasonal changes in the weather is the October promotion of a small gas space heater. Suburban points out that it's just the thing to warm up those chilly rooms on cold fall and winter days.

Radio scripts custom-written for the local dealer by Suburban's advertising department are another of the company's trick-taking trumps—this one is No. 7. It, too, is a free service.



Dealer's trucks look a lot like Suburban-U.D.I.'s fleet of steel station wagon service cars. Utility-Gas sign is red, white and blue.

the Christmas folder.

The sixth hard-hitting card is the ad-of-the-month campaign. Each month Suburban prepares a new newspaper ad tied in with known seasonal buying habits. The ads are two columns wide by 6-in. to 9-in. deep. Mats at no charge are already being sent regularly to about 100 of Suburban's approximately 200 dealers. The cost of the ad space bought by a dealer is split 50-50 with Suburban.

"Ad mats each month," explains Mr. Worthing, "are on the appliance which past sales records show goes best for that month."

For example, last May the Suburban ad-of-the-month featured an apartment size gas range in May—a range just the right size for summer cottages. The Maine firm has found

The scripts are almost all spot announcements running about one minute on the air. They are sometimes tailored to a dealer's own particular local need, but usually they are a stock promotion piece with the local dealer's name inserted.

Ads-of-the-month and radio scripts are tied in with Trump No. 8, special sales helps, manufacturers' folders and showroom display pieces for each month. Suburban furnishes these at the manufacturer's cost price.

"We have about anything you can name from drink stirrers to pot holders," grinned Advertising Manager Worthing. Paper napkins with a plug for Utility-Gas printed on them are a dealer favorite for grange and church suppers.

No. 9 is another demonstration trump, and with No. 2, is perhaps the

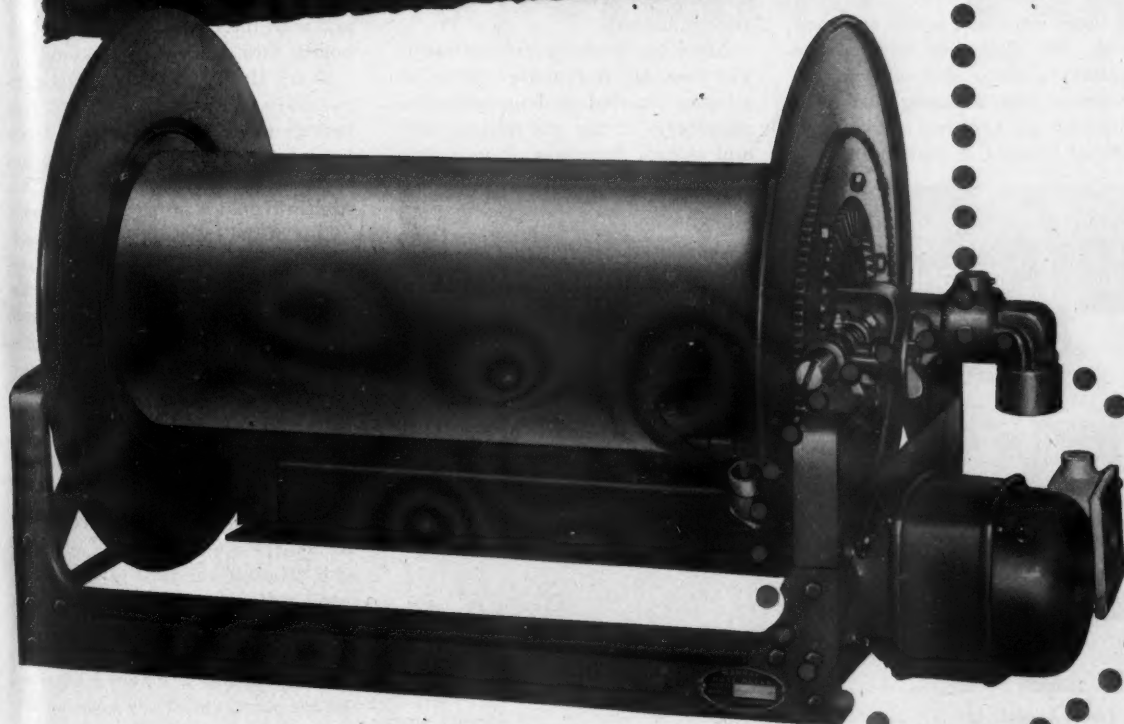
Hannay Hose Reels

with Explosion-Proof Motor

SAFE • EFFICIENT • Completely DEPENDABLE

See Us At
Booth 35

Southwestern
Butane
Exposition



The one Hose Reel that has set NEW standards in *Efficiency, Economy and SAFETY* . . .

The Hannay Hose Reel is scientifically designed and constructed to meet today's most exacting requirements. Users of Hannay Hose Reels . . . and they include many leading LPG distributors . . . will tell you that THIS reel does a REAL job, winter and summer; reduces hazards, lengthens hose life tremendously, speeds up deliveries, eliminates mess and annoyance. Before you say "It can't be done," ask men who KNOW about Hannay performance.

Explosion-proof model has heavy-duty electric motor integral with reel. Built for long life without maintenance or part replacement, this motor is connected through conduit for sealed, safe installation, with explosion-proof switch and vapor-proof junction box. Permanently lubricated sealed ball bearings. Operates on low current at safe, controlled, uniform speed. Quiet, positive sprocket and chain drive eliminates clutch and gear shifting. Simplicity of construction and operation keeps maintenance at absolute minimum. Rolled disc edges and tubular take-off rollers prevent scuffing and hose damage. Sturdy, compact, durable, dependable!

GREATEST NAME



IN HOSE REELS

MANUAL & POWER OPERATED HOSE REELS FOR EVERY REQUIREMENT

©1954 C.B.H.&S., Inc.

most effective of all the top cards. Nothing makes sales like showing people what your product will do for them, and that is the purpose of the Utility-Gas cooking schools. Each school is carefully planned and about all the dealer has to do is say he wants one and state when.

When Suburban recently appointed Woodbury D. Belle of Hollis, N. H., as a Utility-Gas dealer, one of the cooking schools came for the open house. It was the cook's night out and there were fun, prizes and food for all. Mr. Bell, who took on gas installation, stoves and servicing in connection with a widespread farm equipment business, had a storeful of potential Utility-Gas customers.



Mrs. Emma Ledger, Utility-Gas cooking school teacher, demonstrates cooking with gas at a dealer open house.

Mistress of ceremonies was Mrs. Emma Ledger, an expert cook and lecturer on the finer points of cooking with gas. A former home economics teacher, she now puts on cooking schools using Utility-Gas.

Neighborhood people and those from the surrounding towns were notified of the event by the dealer. His employees sent invitations, called potential customers on the phone and gave rides to those without transportation. Advertisements were carried in the newspapers. Every effort was made to make the cooking demonstration a gala event. Guests were greeted personally at the door, handed gay pot holders and numbers for door prizes.

Mrs. Ledger cooked and at the same time talked to the 200 housewives attending the open house.

Throughout the entire demonstration she answered questions about her cooking and about the gas ranges, and baked cakes, cookies, and cupcakes that made even the best cook's eyes sparkle with excitement.

The smaller pastries, cut into samples, were passed among the attending housewives to prove that they were as good as they looked. The cakes and larger pastries were given to a number of housewives as door prizes. Some of the other prizes were kitchen utensils.

After the cooking demonstration was over, Mr. Bell and a Utility-Gas salesman showed the housewives the advantages of the gas ranges. Several models of ranges of varying

prices were displayed on the demonstration platform.

The name Suburban Utility-Gas is broadcast all over New England by red, white and blue roadside signs. They are attractive in daylight and, since they are made of Scotchlite, they also sell at night.

This tenth trump leads into the next one—Utility-Gas billboards. These are like the roadside signs and are imprinted with the dealer's store name.

One of the new trumps added to Suburban's 13 is a share-the-cost campaign to have dealers paint their trucks. Since the red, white and blue sign has been standardized, its use helps tie in the local dealer's trucks with the company's own fleet of all-steel, station wagon service cars and with the roadside signs and billboards throughout New England.

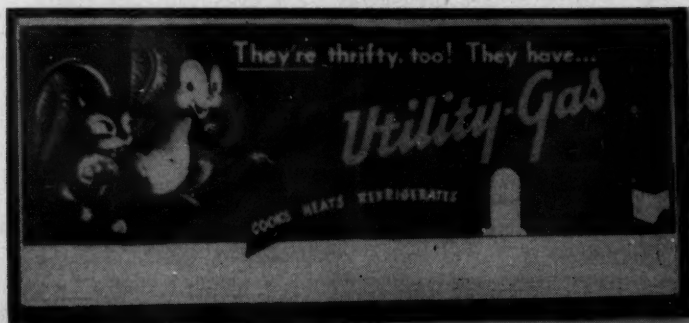
Every Utility-Gas dealer has automatically, as a franchise benefit, free listing under the Utility-Gas trade mark heading in the classified pages of his local telephone directory. This twelfth trump is an additional boost.

Last of the cards is the special advertising and sales help that is given each dealer by Suburban's advertising department. They are ready to help at all times with store advertising using any media—newspaper, radio, direct-mail, film or special promotion. Each dealer actually has at his disposal, free of charge, a complete advertising agency.

"The bulk of our efforts here," says Mr. Worthing, "are aimed at helping the dealer—giving him the tool to sell with. Most of our time in the advertising department is spent on that and on encouraging the dealer to advertise more."

Suburban-U.D.I. knows what its dealers want, too. They have an advisory board which meets twice a year. The company hears the gripes and suggestions of the dealers. And the company listens.

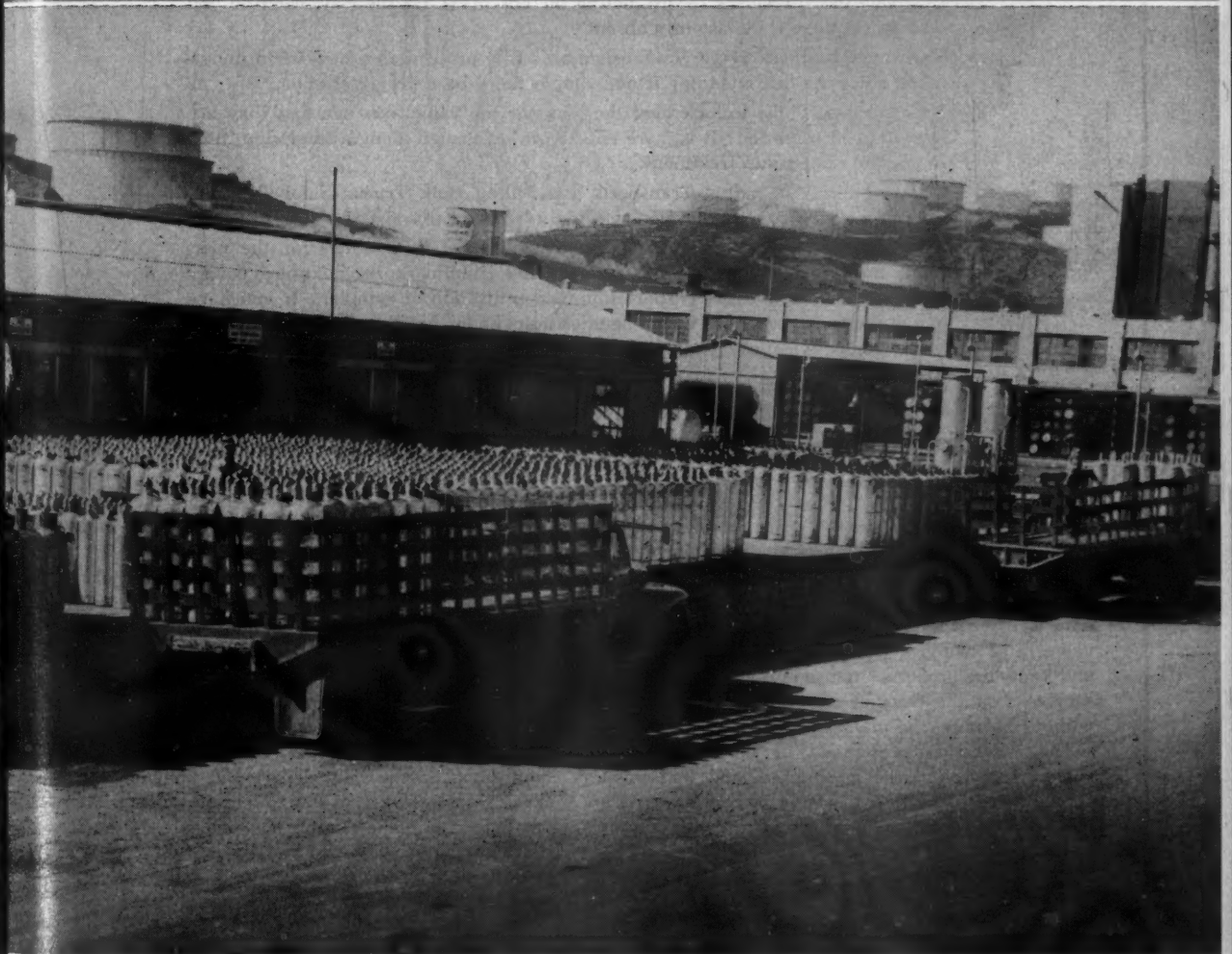
Suburban, with its 13 trumps in mind, warns its well-armed dealers, "Homes, schools, farms—electricity is hot after them. But your hands aren't tied either. You hold trumps like these."



Roadside signs throughout New England carry the Utility-Gas signature.

Let's make SAFETY Everybody's Business

Care Will Keep Cylinder Operations Safe



SAFETY MEETING

Date _____

Time _____

Place _____



HOW TO USE THE SAFETY EDUCATION SERIES

This suggested program is a guide for the next SAFETY MEETING, based upon article No. 16, "Unloading Transports and Filling Bulk Trucks Safely," which appeared in the May issue. After the meeting the SAFETY POSTER which appears on the opposite side of this page should be posted on your bulletin board as a reminder for the meeting to follow, based upon the article appearing in this issue, "Care Keeps Cylinder Operations Safe."

Suggested Program for Safety Meeting

For "Unloading Transports and Filling Bulk Trucks Safely"

- 1— Complete the attendance record, noting the absentees. By the way, what do you do if an employee is persistently absent?
- 2— Unfinished business. Have you finished all safety projects that have been undertaken since the last meeting? If not, should there be a progress report?
- 3— New business. Time to look over the plant or the vehicles to see that they are kept in good condition? It is more effective to campaign along a single line than to use the scatter-gun treatment.
- 4— Discussion of "Unloading Transports and Filling Bulk Trucks Safely," or the alternate review session that you selected in place of this subject.
- 5— Announce date, study assignments, and any special instructions for the next safety meeting. As you will notice, the article beginning on the next page covers the maintenance, filling, transportation, and utilization of cylinders. If you have one of the rare operations which handles no cylinder business, you may wish to substitute a review of one of the previous meeting subjects.

DISCUSSION GUIDE FOR

"Unloading Transports and Filling Bulk Trucks Safely"

Unloading transports follows the same general principles brought out in the previous assignment on unloading tank cars. This will be a regular duty for only a limited number of the staff, but since emergencies may arise, it will still be a good idea to have every member of the staff familiar with the valves and switches which control the operation, and know the proper sequence of operations necessary to stop the transfer on an emergency basis without harming the plant equipment.

The suggestion presented last month, that a standard procedure be established, and that this should be written up and posted where it will be most readily accessible, is just as sound with transports as it is with tank cars.

Loading bulk trucks is the most frequently performed transfer operation in most plants doing good bulk volume. In small plants, the drivers generally fill their own trucks; in a few larger plants there is a special yard man who performs this job. Theoretically, greater safety is achieved if the operation is always performed by a specialist, but in the smaller plants economic conditions are such that each driver must be his own specialist. He should be just

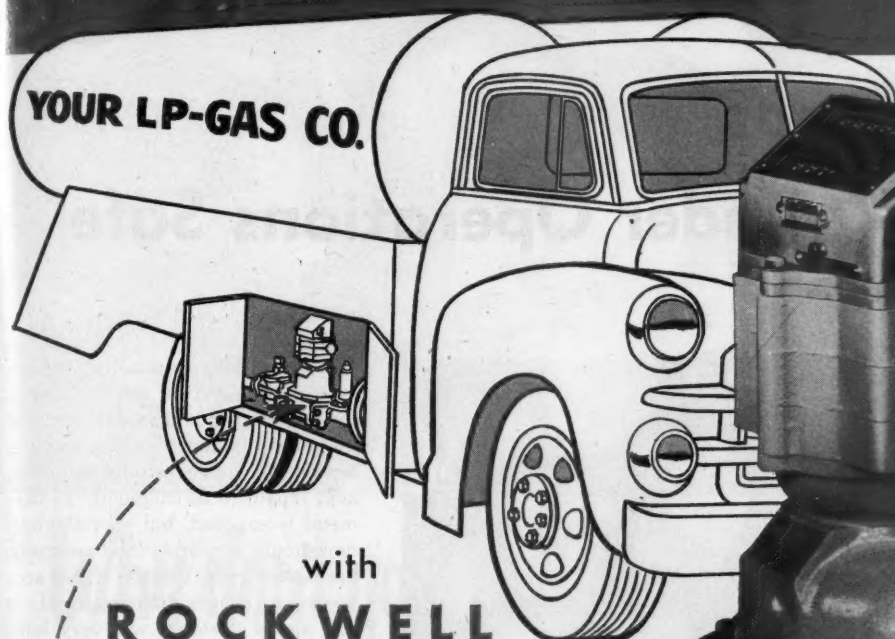
that, and he should have all the help that the management can give him in the way of training and written instructions.

Now that summer is here, there are several jobs that should be taken care of. Weeds should be removed before they get dry and constitute a fire hazard around the plant. Customer tanks should be inspected, and repainted if needed. This is a good time to make a safety inspection of the appliances in each customer's home, making a record of each appliance and listing the condition and service work required. (Can the sales department imagine any more valuable way than this to find out what additional new appliances each customer needs, and what old appliances should be replaced? And could there possibly be any better person than the service man to tell the customer when he needs to replace an appliance?)

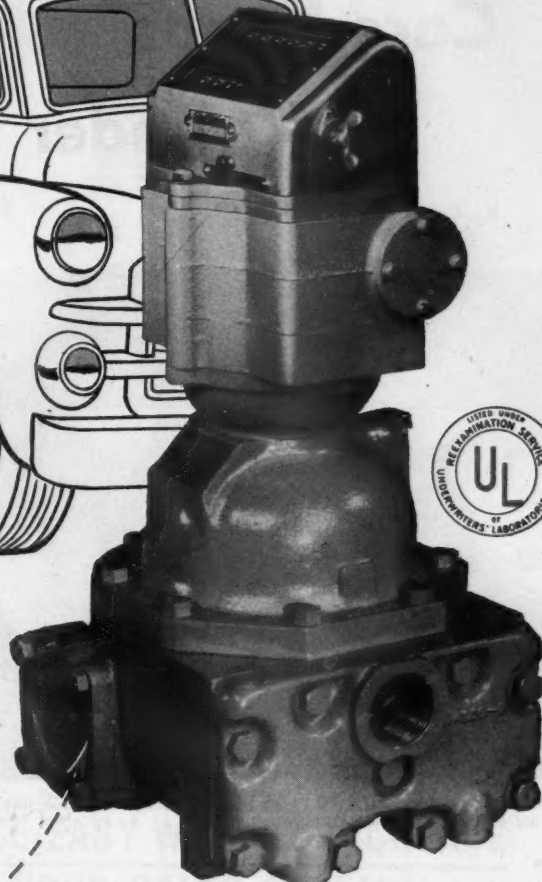
Looking over the questions listed for discussion in this meeting, it is amazing how many of the answers would be of interest to an alert insurance adjuster in case you did not follow the specified procedure, and an accident followed. Truly, the time to be safe is all the time.

ANSWERS TO MAY PROBLEMS APPEAR ON PAGE 57

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Care Keeps Cylinder Operations Safe

By Carl Abell



Bottoms of cylinders after 20 to 25 years of service can look like this if properly maintained and kept on dry foundations.

THE principle hazard in connection with cylinder operation is that cylinders are generally considered so safe that employees are likely to become careless in working with them. Cylinders are not inherently safe. They are safe only when maintained, filled, transported, and installed with full observance of the necessary precautions.

If properly protected from corrosion, mishandling, and neglect, the life of the cylinder is practically indefinite. So little trouble has been experienced with them that the Interstate Commerce Commission has liberalized its requirements for retesting on several occasions. The original requirements called for retesting under hydrostatic pressure every five years. This was later extended, on the basis of experience, to 10 years,

and eventually, in 1953, the rules were changed to require only a visual test every 12 years by a competent person. The sticker is that nobody has been able to tell us how to determine who is a competent person. No qualifications were given. (See "A Competent Person," pg. 13.)

That makes it necessary for each operator to use a little of his own common sense. Obviously, if a cylinder has been through a fire, or shows evidences of a hard life because of deep scratches or dents, the sensible operator is not going to wait 12 years to find out whether it is still safe to use. Cylinders cost so much less than accidents that there is no possible justification for using one that may have been weakened due to any cause whatsoever.

The big enemy of cylinders is rust.

It is most likely to penetrate deeply and eventually ruin the cylinder at the bottom, inside the base-ring. For the sake of both appearance and protection, the entire cylinder should be kept repainted as frequently as bare metal is exposed, but special attention should be paid to the base inside the bottom ring, because if this area becomes wet it is difficult to dry it out, and if it stands wet very long, rust is likely to develop.

Many operators use special rust-resistant paints for the bottoms. Some of the newer paints contain inhibitors, but even with these there is no good substitute for a thorough job of cleaning the corroded areas before painting. The protective coating should be thin and smooth instead of thick and lumpy. The thin, smooth coat will show up very clearly any new patches of rust that develop under the paint, whereas a considerable amount may form underneath a thick coat of paint before it becomes noticeable.

What has this to do with safety? A cylinder that is badly pitted with rust has been weakened, and a weak cylinder is always a poor "security risk." Some of the best operators test all deep rust pits with a punch and a 2-lb hammer. If the punch goes through, or does anything more than leave a slight mark, the cylinder is discarded.

A cylinder with a deep dent should always be tested under pressure to find out for sure that the metal has not been weakened at the crest of the dent inside the tank.

The valve is the one part of the cylinder that is subject to wear because of movement, and the one part



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Find out if deep rust pits have weakened the cylinder.

in which seating parts wear out against each other. Leaks may develop at the seat or at the POL connection. The brass from which valves are made is reasonably strong, but it will not take abuse. Care should be taken in making up the POL connection, either during filling or while changing cylinders at the installation, always to line the two threads up perfectly before running together, and never to get them cross-threaded or strain the threads too severely with the wrench. Damaged threads will always be a potent source of leaks, and when the POL threads on the valve are damaged, the valve is ruined. The seating parts can be replaced, but threads cannot be restored after they have once been damaged.

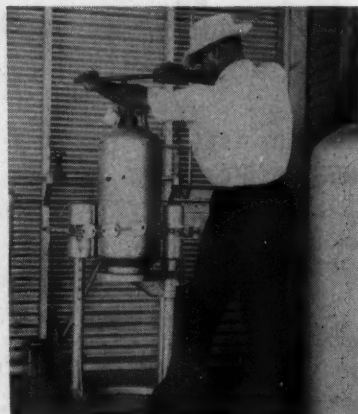
The cylinder valves now in most common use include a pressure relief valve, which is set in accordance with the ICC regulations to discharge at 375 psi. These valves seldom operate, but it is important that they be kept in good operating condition. If the spring appears to be badly corroded, it is evidence that it is losing strength, and this will eventually lead to discharge of fuel at pressure below that which would normally be held. This is not a desirable condition. The pressure relief valve is there to prevent rupture of the tank under abnormally high temperature and pressure, not to discharge fuel under atmospheric temperatures.

Defective valves, if judged repairable, should be reconditioned by a man specially trained in that work. If the volume of this kind of service work in your company does not justify the presence of a skilled serviceman, the valves should be sent back to the factory for reconditioning. It is not a job to be undertaken with a garage vise, a crescent wrench, and a bosom full of hope.

Getting the valve out of the cylinder is sometimes a bit of a trick.

Every cylinder filling plant should have a cylinder vise securely anchored to the floor, and the proper solid-jaw wrenches for removing and replacing valves. With the cylinder securely held in the vise, and a long handled wrench on the valve, the latter can be removed without pounding, which is an advantage not to be taken lightly. Never pound around a cylinder.

Most cylinders are painted with aluminum paint, and sometimes the aluminum is in contact with patches of rust underneath the coating. A glancing blow with any kind of instrument—steel, brass, or anything else that can cause heat from friction—may set off a small thermite explosion from this mixture of aluminum powder in the paint and the rust on the steel container. These small-scale thermite explosions are intensely hot, and it is believed that a good percentage of filling house fires of mys-



Valves should be removed with solid-jaw wrench, holding cylinder securely in a vise.

terious origin have been caused by such occurrences.

While Pamphlet 58 states clearly that cylinders of less than 200-lb capacity shall be filled only by weight, some of the state regulatory bodies think otherwise, and allow the filling of cylinders on location, provided that they are equipped with a fixed liquid level gauge and are not overfilled. There can be no question that this practice increases the hazard of human error, and if the practice is followed in your operation extreme caution should be used in connection with every detail.

When filling cylinders with the regular bottling-house set-up, it is customary to use either an automatic

shut-off valve, or a manually operated quick closing valve. Such equipment is seldom carried on bulk trucks, and the time required to close a hand-operated globe valve on the end of a hose is considerable, even though it has been opened only partially to facilitate quick closing. Under pump pressure the cylinder fills quite rapidly, and particularly in the case of small house trailer type cylinders there is a good chance that the reaction delay of the man, plus the time required to close the valve, will result in overfilling the cylinder to a degree that may lead to discharge through the pressure relief valve if the cylinder is in the sun.

The same reasoning applies to filling house cylinders "on location," although there is a little more leeway for delays because of the larger size of the cylinders. All of which adds up to the fact that the proper place to fill cylinders is in the cylinder filling house, and the proper way to gauge contents is by weighing on a scale.

Automatic controls on the bottle filling manifold are among the best safety devices yet developed for the LPG industry. To be effective they must include quick closing valves. When kept in proper adjustment they are very effective in preventing overfilling of cylinders.

Users of hand-operated valves in filling plants should also consider the advisability of installing quick closing valves on the manifold hoses. They will more than pay for themselves in the saving of time and fuel in preventing overfills. It takes about as long to bleed off an overfill as it does to fill the cylinder in the first place, and it results in waste of fuel and the creation of a fuel hazard on the premises. Then there is always the human tendency to let the overfill go through if it is not too bad—and the human tendency is to get more and more liberal in the interpretation of "how much is 'too bad.'" In the course of time it really does get "too bad," and here comes an accident caused by discharge of liquid propane through the pressure relief valve.

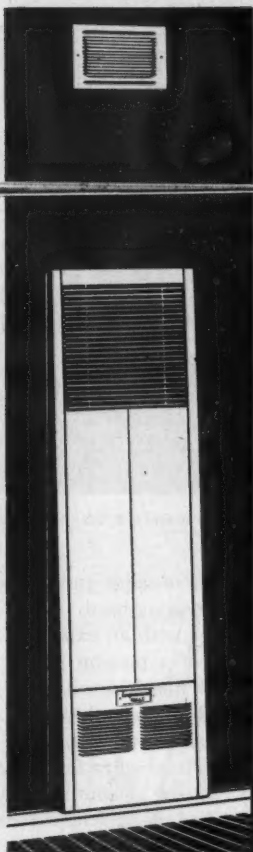
As a precaution against accumulation of fuel vapors in the bottling house, it is a good idea to install a "blow-down pipe" through which to bleed off cylinders when correcting overfills, or when depressurizing for



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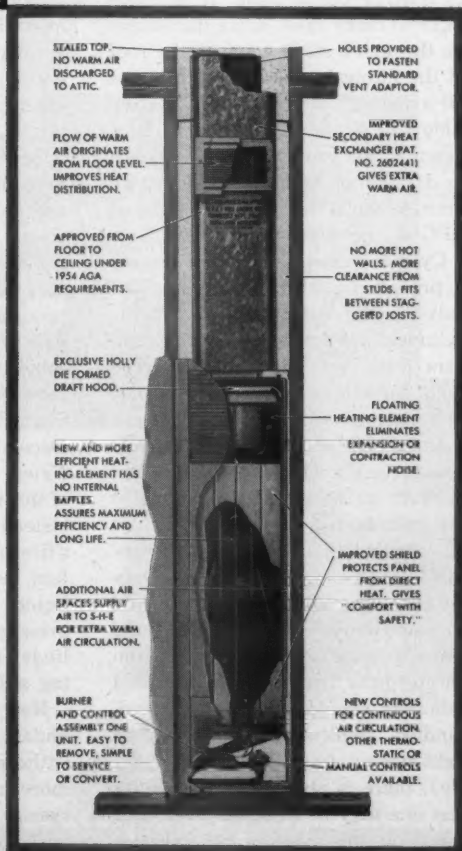
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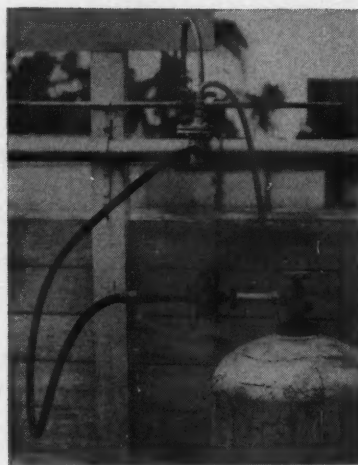
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the removal of valves. Many operators overlook this precaution, depressurizing in the yard or on the filling house dock, and letting the overflow discharge into the air directly from the valve.

Both practices are bad, adding to the amount of gas at working level beyond the amount that is unavoidably discharged when breaking the cylinder connections. It is much safer to make these extra discharges up through a stack going to the roof of the filling house, and up into the air a distance of several feet. By the time the discharged fuel gets back down to the ground it has a chance to disperse below the flammable limit, which is the only time escaped LPG is ever safe.

Cylinder valves should be properly protected at all times, because the valve is the vulnerable unit of the cylinder, subject to damage. Cylinders with welded-on rings higher than the valves provide this protection automatically, except from mechanical blows coming practically straight down, which are possible but unlikely in the ordinary handling of the cylinder. If your cylinders are the conventional type, with a screw cap to protect the valve from every direction, the cap should be screwed on immediately following filling, and immediately after disconnection from the customer installation. While filled cylinders should always be stored, handled, transported, and installed right-side-up (with the valve at the top), there is always the possibility that one may be knocked over. The valve on an overturning cylinder



Evacuating manifold riser up corner of building discharges gas above building roof.

weighing 180 lb takes quite a blow if it strikes anything hard.

A cylinder with an exposed valve, falling out of a pick-up in Los Angeles, struck upside-down on a street car rail, and the valve broke off. The cylinder was about a quarter of a mile up the street when the fireworks stopped. In the meantime several motorists had been frightened into minor collisions, and a Cadillac had mowed off a fire hydrant. If such an accident should occur in a filling house or on the loading dock, with other filled cylinders all around, there could be a serious disaster. Screwing the cap on the cylinder immediately after filling is a simple and sure preventive of such goings-on.

The reason for keeping filled cylinders in the vertical position at all times is so the pressure relief valve will discharge only vapor if it becomes necessary for it to operate. Review of the meeting assignments on fire prevention and control in the December issue of *BUTANE-PROPANE News* will show the importance of this precaution. Discharging vapor instead of liquid limits the hazard in a fire area, because there is much less fuel lost than would be the case if liquid were discharged to relieve pressure. Evaporation within the cylinder also provides maximum cooling and protection for the cylinder.

Now, a word about the special cylinders that are equipped with liquid withdrawal outlet valves. There are more and more of these in use for special industrial applications, and for removable fuel tanks for fork-lift

trucks used in factories and warehouses and for the movement of heavy materials in construction yards. Unfortunately, some of these cylinders have been fitted with liquid withdrawal tubes, without due consideration for all of the factors of safety.

To provide the protection intended, the pressure relief valve must be installed so it will communicate with the vapor space in the tank. If a standard domestic type POL valve is equipped with a dip tube to provide for liquid instead of vapor withdrawal, the pressure relief valve that is integral with the valve communicates only with liquid, and this is a highly dangerous combination. ICC cylinders in liquid withdrawal service should either be equipped with separate threaded connections to install the pressure relief valve in the vapor space, or a special withdrawal valve having a separate channel between the pressure relief valve and the vapor space should be used.

Proper storage location for cylinders in industrial use is extremely important. Industrial users are not likely to know proper methods of storage unless they are told, and while telling them it is always a good idea to back up the information either with the safety orders of the state or municipality, or with Pamphlet 58. Unless forcefully brought to their attention, the rules are apt to be violated even to the extent of stacking cylinders horizontally in a basement. No worse condition could possibly be found. And this is not impossible.

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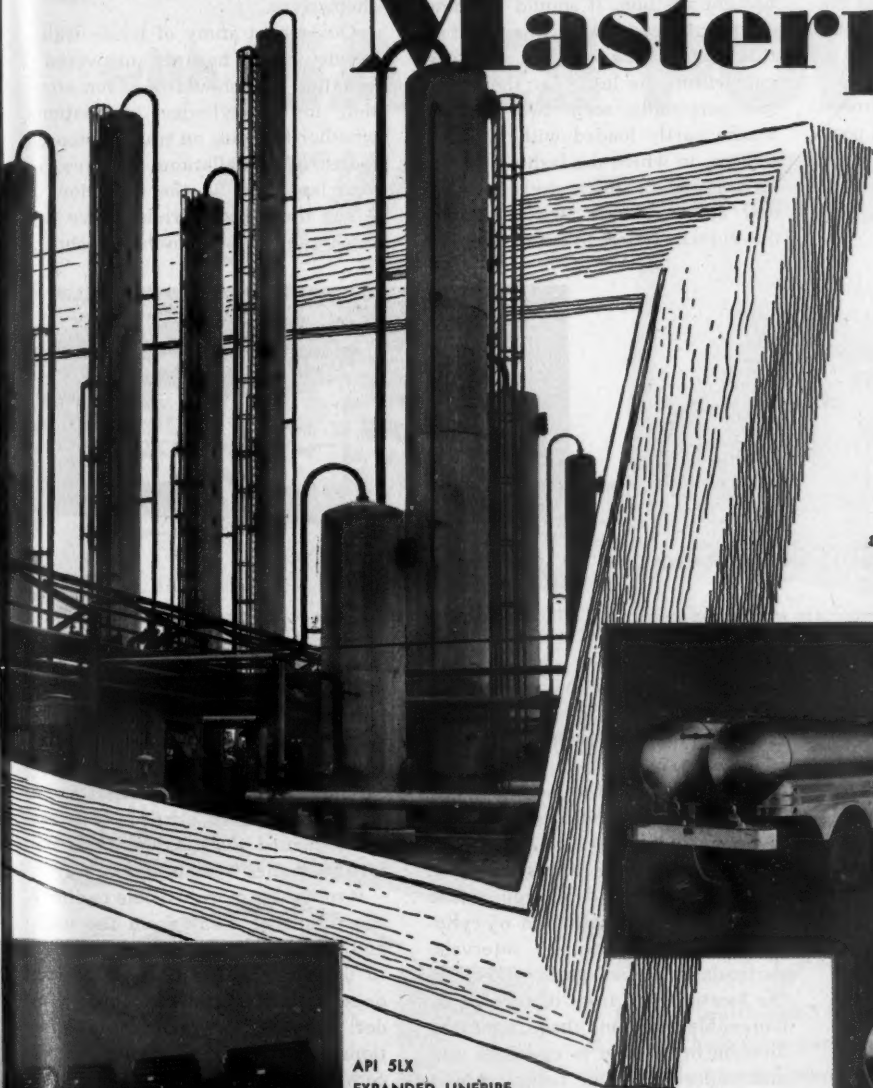
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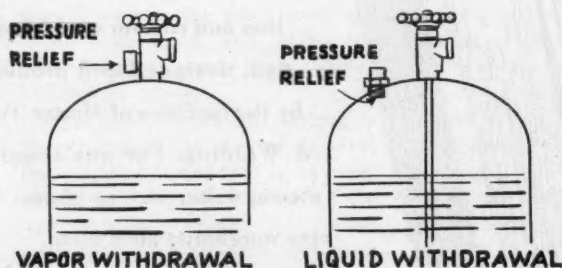
Last summer a plumbing firm not only transferred fuel from 100-lb cylinders to plumber's pot fuel containers in a basement, but also kept some reserve cylinders of fuel there. All this came to light after fuel vapor escaping during the transfer got to the pilot of a water heater, and the basement caught fire, kindling the rest of the building with gas torches from the stored containers, resulting in gutting the building in spite of the combined efforts of all the fire companies that could be concentrated in the area. All industrial cylinders not in immediate use should be stored out of doors, and in the upright position. They should be located the proper distance from openings into buildings, and well away from any possible source of ignition.

material giving the information needed by the users. This is being done in some cases, particularly where the companies are large enough to maintain safety departments. Many smaller companies depend on the National Safety Council or the supplier of the fuel for whatever safety training material they use.

In transporting, cylinders should always be anchored securely in the upright position. It should be unnecessary to emphasize this point at this stage of the industry's history, yet, within the last year the writer has personally seen two delivery trucks partly loaded with filled cylinders, on which the lashing was insecure, and cylinders were lying at odd angles. There are sometimes drivers who object to taking the time

five feet farther to the pilot of a water heater in the service entrance, where it was ignited and started a fire in the home. That was a combination of improper location of cylinders and inexcusable carelessness in allowing a joint to leak. It was an unusually bad leak, admittedly. But what business has a driver to leave a connection that is leaking even a little? These conditions never get any better by themselves.

Our recent study of house trailer accidents and hazards uncovered a situation that should be given attention in all cylinder installations, whether they are on trailers, houses, industrial installations, tractors, or vehicles. That is the direction in which the pressure relief valve will discharge if such discharge should



The pressure relief valve must communicate with vapor space, never with liquid.

Industrial users provide a personnel problem over which we have no control. Changing personnel, and assignment of men to jobs in which they must transport or use cylinders of LPG, are likely to place the fuel in the hands of men who have not the slightest idea of how to handle it safely.

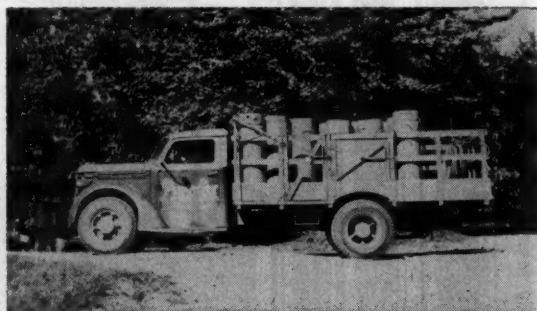
It would seem to be a sensible precaution to put a tag on each cylinder delivered for industrial use calling attention to the following regulations: (1) Cylinders must be kept in the vertical position during storage, transportation, and use; (2) Filled cylinders must be stored in the open air, preferably in a locked wired-in enclosure. They must be located at least five feet from any opening into or under a building, and preferably completely away from any building. (3) Only employees who are familiar with the regulations for safe use may handle cylinders or use the gas.

Then each industrial customer should be supplied with training ma-

necessary to rope or chain the bottles securely in position, and possibly there are employers who are willing to allow these needless risks for the sake of saving a few seconds. The lashing system should be as quick and convenient as possible, and then it should be used as it was intended.

It will be a good idea to review the regulations for installation of cylinder systems at frequent intervals, particularly those regarding keeping the location free from dry weeds or flammable trash, and those regarding location in relation to openings into and under buildings. Location next to porches, where the cylinder valve is above the level of the porch floor, should be particularly watched.

A case recently came to our attention in which a cylinder system was mounted at the windward end of a porch, with the valves about a foot above the level of the porch floor. Gas leaking from a worn connection moved across the porch floor to the door, nearly eight feet, and traveled



Filled cylinders should always be kept upright and lashed securely in place during transportation.

occur. On trailers we saw several cases in which the direction of discharge had been squarely against the wall of the trailer. In cases where ignition took place, the trailers were either completely burned, or holes were burned through the walls before the flames could be extinguished.

It seems far more sensible to direct the discharge away from the wall, and in the case of dual installations, to be sure that the discharged gas does not impinge on the other cylinder. Likewise, in multiple installations, the discharges should always point out away from the other cylinders. This leads to the logical conclusion that cylinders should not be massed in these multiple installations, but lined up in a single row if located against a wall, and in not more than two rows, "back-to-back," if located in the open.

The recent widespread conversion of fork-lift trucks used in factories and warehouses, in which modified house-trailer type cylinders are used

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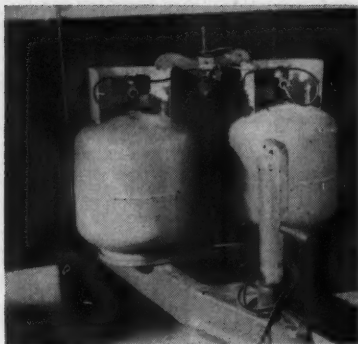
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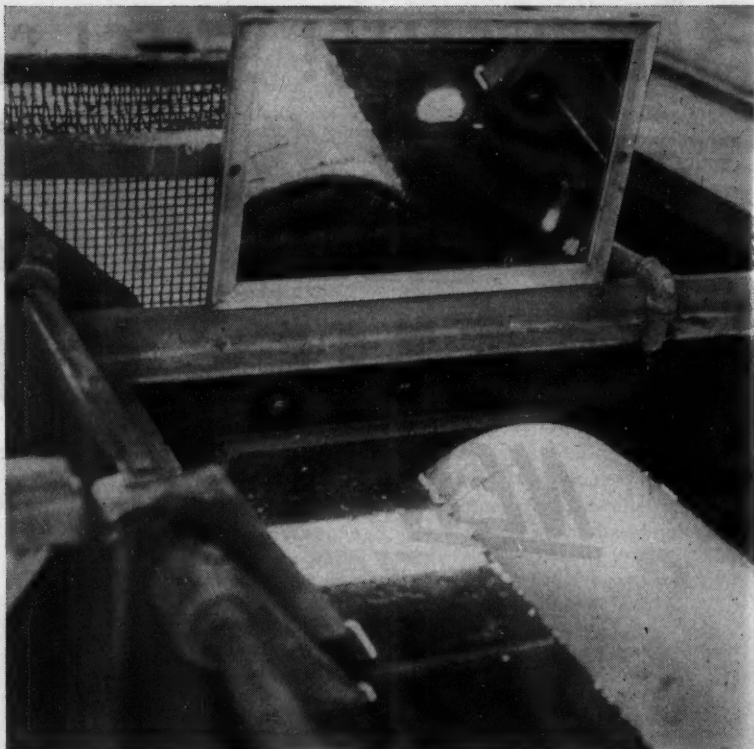
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Trailer cylinders mounted with pressure relief valves aimed at wall of trailer—should be reversed.

as changeable fuel tanks, gives us another version of this same problem, only in this case we should be careful that the discharge of the pressure relief valve is not pointed in the direction of the driver. We would certainly not want to have a driver taking one of these vehicles out of a burning building, and have the safety valve let go and blast him in the back with a big jet of flame. We would not even want to have him struck with a jet of unignited escaping gas. This is not as far-fetched as it may sound.

One of the first tractor manufacturers to put out factory-equipped LPG models made this mistake when installing his first permanent tanks with the valves and gauges conveniently located at the rear of the tank, where they could be seen and reached most easily by the driver. The pressure relief valve, which was there in compliance with safety orders, but which they never expected to discharge, was also grouped with the instruments, and pointed straight back. They campaigned the field and put elbows deflecting the discharge upward after they had two reports



Some large operators test filled cylinders for leaks by immersing in water.

that engine heat and wild fuel had caused pressure relief valves to discharge refrigerated gases right in the ribs of the drivers.

We come to the final consideration—what to do in case a delivery truck becomes involved in an accident resulting in the spilling of cylinders on or along the highway. If there is no resulting fire, the cylinders should be stood right-side-up pending recovery, with the pressure relief valves pointing away from the other cylinders, so if a fire should develop it would not spread from cylinder to cylinder. In case a group of spilled cylinders should be in a fire, they should be

separated if possible so they will not serve as torches to heat each other.

Cylinders are safe as long as they are properly maintained, filled, transported, installed, and kept from being affected by heat from outside sources. It's all a matter of being careful, and using good judgment all along the line.

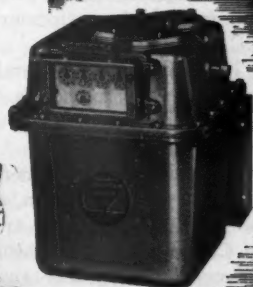
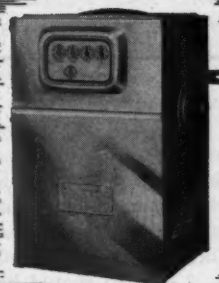
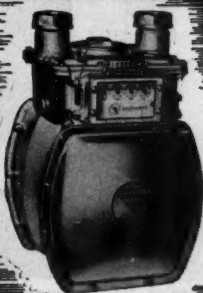
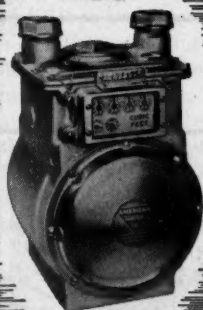
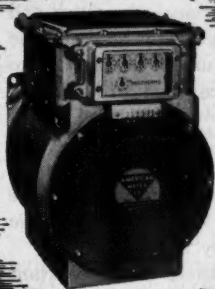
Coming

Safety Article No. 18, which will appear in the July issue, will deal with personal safety.

Filled cylinders should be kept in upright position no matter where they are. Valves should be protected with rings or caps.



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Problems for Discussion at Seventeenth Safety Meeting

There is an old saying that there are only two kinds of pedestrians—the quick and the dead. Likewise, there are only two kinds of L. P. gas employees—the safe and the unsafe. There is only a little difference between the two—the unsafe employees are safe most of the time. But in those short intervals when precautions are relaxed, things happen. The safe employee is the one who does not allow even momentary relaxation of precautions.

The problems presented herewith are designed to stimulate the employee's thinking in connection with routine and well-understood problems, and to carry on the same sound lines of reasoning in application to other situations which may not arise frequently, but which must be met with quick action when they do occur.

Emergencies do not happen often in cylinder operation, so there is the constant temptation to forget about the hazards. The comparative safety of the cylinder is the soundest reason we know for reminding employees frequently of the proper methods to follow to be safe all the time.

PROBLEMS

1—In making a safety inspection of propane cylinders to find any possible conditions which might make the cylinder unfit for further use, what conditions would you look for?

2—What should be done with cylinders which the above visual inspection leads you to suspect might be defective? What would be your procedure in case your plant is not equipped to perform the pressure test which was formerly prescribed under the ICC rulings?

3—Junk dealers are generally afraid to handle discarded LPG cylinders. Is this fear justified? What could be done to insure safety in culling up junked cylinders?

4—It is generally recommended that adjustable wrenches (crescent, Stillson, or monkey) should not be used for removing or installing cylinder valves. Can you give two reasons which are important enough to justify this recommendation?

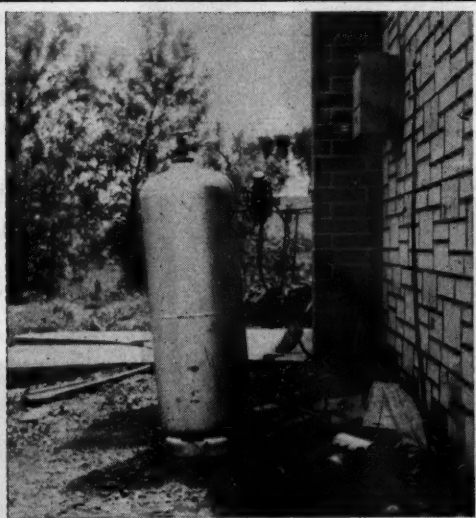
5—Suppose someone who fills cylinders "on location" should overfill a 100-lb cylinder installed next to a house, and you were called on to remove enough liquid to make the cylinder safe for use. What would be your procedure, and why?

6—If you were filling cylinders in a bottling house that was not equipped with a "blow-down stack" or evacuator, and you accidentally got five lb too much gas in a cylinder, what should you do? Would it be safer to bleed this excess out slowly, or as quickly as it could be released?

7—Why do the rules forbid storing, transporting, or installing standard cylinders in a horizontal position? Would stacking filled cylinders in a horizontal position create any greater hazard than "single-decking" them?

8—Describe the correct installation of the pressure relief valve in a cylinder equipped for liquid withdrawal. Why is this necessary?

9—Would it be safe to mount such a cylinder for use in any position other than that which places the



What's Wrong With This Installation?

- 1—The cylinder is not on a firm, dry foundation and could be upset very easily.
- 2—The regulator is hanging on the tubing instead of being firmly attached to the building.
- 3—The cylinder is too close to an opening under the building.
- 4—The tubing is exposed in coils, so a child running through the yard might stumble over it, injuring himself or damaging the tubing.

pressure relief valve at the highest point of the cylinder?

10—What standard precautions should you observe in installing cylinder systems for new customers?

Answers to May Safety Problems

Problems for Safety Article No. 16, "Unloading Transports and Filling Bulk Trucks Safely," appeared in the May issue on Page 72. Here are the answers.

1—The wheelchocks should be put down every time the bulk truck is stopped. The reasons are (1) to establish the habit of blocking the wheels, so no emergency will arise and find the vehicle able to roll when it should be secured; (2) to prevent the vehicle from moving while the hose is attached; (3) to prevent the vehicle from rolling while parked on a slope and unattended.

2—This is definitely a problem for each plant manager. The master copy or copies is generally mounted under glass in a weatherproof frame at the pumphouse or at the location where the switches that control the unloading operation are placed. Each employee who may be required to act in an emergency should have a copy of the instructions, and be drilled in the procedure.

3—The driver "spots" the transport, under the guidance of the plant operator. He shuts off his engine, chocks the wheels, and he is then through until the load is removed, unless by mutual agreement he assists the plant operator in connecting the plant hoses to the transport. The plant operator is responsible for seeing that the connections are properly made and are not leaking, and for the opening and closing of all valves on the transport in connection with the unloading. After the transfer is completed the plant operator closes the valves on the transport, and disconnects and takes care of the hoses. The driver rechecks the valves to see that there are no leaks, caps the outlets, inspects to see that everything is clear for removing the truck, picks up his wheel chocks, makes sure that it is safe to start his engine, and takes the transport away.

4—Let your conscience be your guide. We believe that the safest way is with a spanner.

5—This question could throw you, but it might point up a needed correction in your plant piping. If the valve at the end of the hose is closed, as it always should be in disconnecting the hose, there would be no unusual hazard. If this valve is not closed, then all the fuel between the connection and the last check valve in the line could be discharged. As a matter of common sense, a check valve should be located where the hose connects to the plant piping. Second half of the question—if your hose connection is equipped with a bleed valve, and you used it as you should, it would tell you that the valve between the connection and the transport tank is open, because it would not bleed the pressure down—gas would continue to escape. If you do

not have this bleed valve, and disconnect the hose with the valve open, the pressure in the tank could cause the escape of a large amount of gas. More important than the fire hazard is the risk of personal injury.

6—Yes, there should be a backflow check valve at that location. For the vapor line, in which the flow might be in either direction, and certainly will be if the unloading is done with a compressor, there should be an excess flow check valve where the hose connects with the piping.

7—There must be pressure relief valves between all shut-off valves that may be closed and trap liquid in the line, because the increase in pressure due to rising temperature might burst the piping or hose if this protection is not supplied. The hose might be able to expand enough to accommodate the extra volume of liquid due to rising temperature a few times, but this would weaken it and hasten its eventual failure, so it is best to use the pressure relief valve and save the hose.

8—A "blowdown pipe," "riser," or "stack" is a pipe used to conduct fuel vapors to a point of safe release, directing them upward at a point considerably above the tops of the tanks or buildings in the vicinity. It is used for emptying hoses or for other necessary releases of fuel. It reduces hazards by discharging the fuel upward at a spot where no ignition will take place, so the fuel will have a chance to disperse below the flammable limits before any of it reaches a place where it might become ignited.

9—We would say that depends upon where the truck is when the leak is discovered. If the leak can not be closed by tightening valves, the transport should certainly not be left where it might be exposed to passing traffic or where it might be approached by smokers. The ignition system of the engine should be kept in top condition so there will be no exposed sparks when starting.

10—There are two reasons, both valid. One never knows when a truck may be exposed to abnormal heat, which may cause the discharge of liquid fuel through the pressure relief valve. Is that reason good enough? Here's a better one. If employees get into the habit of relaxing precautions according to the dictates of their momentary judgment, it is only a question of time until they are relaxing precautions without depending on judgment, and this is just asking for a disaster.

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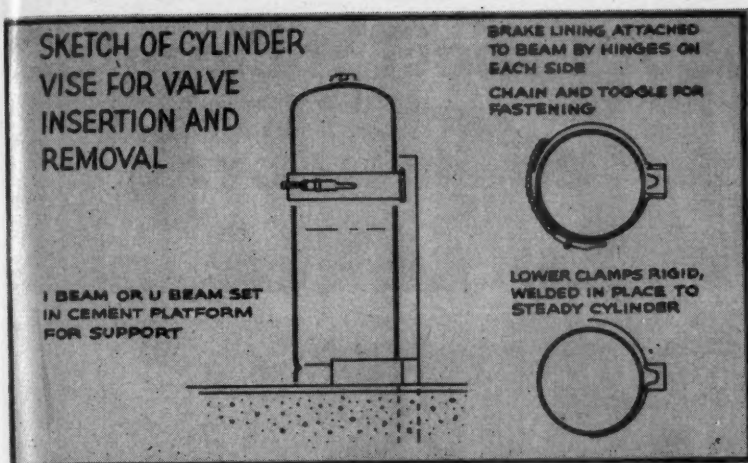


Fig. 1. Cylinder vise holds cylinder while valves are inserted and removed.

Tips for Handling Cylinder Valves and Fittings

A RULE to remember about cylinder valves and fittings is this: to get the best service install them properly and always handle them with care.

Choose quality fittings made by a reputable manufacturer and designed especially for L. P. gas service in accordance with NBFU regulations and listed by Underwriters' Laboratories. Such valves, float gauges and other fittings are rugged and sturdy, and will give good service in your L. P. gas cylinders. They are precision-made products, however, and should always be handled with care.

Always store your fittings carefully. Protect them from dirt, dust and moisture so they'll always be ready for use when you need them.

When you're installing valves and fittings, follow the manufacturer's instructions. If you don't have such instructions, the following tips will help you do a good job.

Use a quality luting compound recommended for L. P. gas service. There are many good compounds that have similar properties. The use of hardening glycerine base compounds is not advisable. Apply the compound evenly, but not in excess. The best results will be obtained if the female rather than the male threads are luted.

Turn valves down with a constant, steady pressure. A cylinder vise will

permit you to walk around the cylinder pushing a pipe slipped over the end of the wrench. The same procedure will work on permanent collar-type cylinders if you use an offset wrench. Care should be taken not to force the valve into the cylinder beyond a reasonable amount.

Use a good, thick wrench which closely fits the "flats" on the valve, and hold it tight against the valve and perpendicular to the center line of the valve. Cylinder valves are sturdy brass forgings, but poorly fitted wrenches or jerky wrenching can damage the safety valve or distort the precision machined interior.

If your plant does considerable valve insertion, you may wish to use a reflex sensory torque wrench. This wrench automatically assures proper torque control by making the oper-



Fig. 2. With cylinder in vise, valves may be turned down with even pressure by walking around the cylinder pushing a pipe slipped over end of wrench.

ator stop the instant the predetermined torque is reached.

Stop all valves in the same position, especially on cylinders to be filled by weight. In general, if the POL outlet is faced away from the tare weight and serial number data, this information will be facing the operator during filling. When valves have been inserted, they should immediately be closed and covered with valve protection caps to keep out dirt and moisture, and to protect the valves against damage.

When new cylinders are received from the manufacturer less valves and gauges, these fittings should be inserted at once to prevent the possibility of rust forming on the threads. This is particularly advisable with float gauges, since the four bolt holes in the adapter nozzle are usually not plugged, and they will quickly start to rust. If rust has been permitted to



Fig. 3. POL outlet may be used as a guide for stopping all valves in the same position.

form, clean the threads with a small wire brush, and chase threads with a hand tap if necessary.

Large stationary type cylinders requiring float gauges are usually shipped with the gauge boxed separately for protection during the shipment. These should be installed at once. When inserting the gauge, be sure to tighten up the four bolts uniformly, as when mounting on automobile wheel. If one bolt is tightened before strain is taken on the other three, a leaky connection may result. Use only gaskets supplied by the gauge manufacturer. Substitute gaskets may not be suitable for use with L. P. gas, or they may not exactly fit the gasket recess.

Don't attempt to repair faulty valves or fittings yourself. Always return them to the manufacturer for repair, so they can be properly adjusted and tested before being returned to your stock.

If these precautions are followed, you should rarely have trouble with your cylinder valves and fittings.

Adapted from "Cylinder Tips," published by Pressed Steel Tank Co., Milwaukee, Wis.

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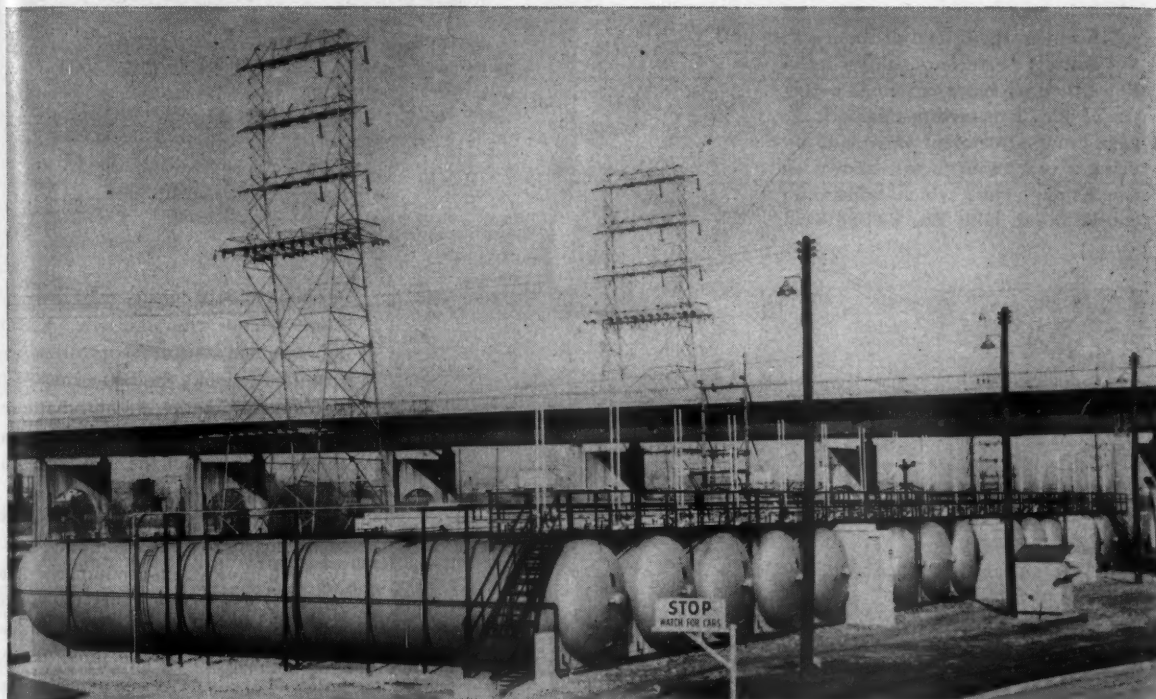
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Caterpillar Finds Propane

Invaluable as Standby Fuel

By Harry L. Spooner



Caterpillar propane installation consists of 18 storage tanks, each with a capacity of 30,000 gal. Railroad tracks run close to the ends of the tanks.

ONE of the largest industrial plants in the country, Caterpillar Tractor Co., Peoria, Ill., has found liquefied petroleum gas very valuable as standby fuel to take the place of natural gas. Caterpillar, faced by a curtailment of natural gas in 1946, placed in operation that year a complete liquefied petroleum gas installation.

Between July 1, 1946, and July 1, 1947, a total of 650,000 gal. of liquefied petroleum gas was purchased by the company. Of this, 320,000 gal. were consumed that season. Although butane was used initially, temperature conditions forced the company to change to propane in the first season. Since that time, a curtailment of natural gas has occurred each winter except the 1951-52 season. During the eight years the L. P. gas has been

used, approximately 4 million gal. have been consumed. The 1953-54 winter season has brought the most severe curtailment to date.

The L. P. gas is used for many purposes, two of which are in the core ovens of the gray iron foundry, and heat treatment furnaces throughout the plant.

The propane installation consists of 18 storage tanks, each with a capacity of 30,000 gal., along with a modern pipe system and other equipment for vaporizing, blending and delivering the gas to the points of use. The tanks are located in the open near the big Cedar St. bridge crossing the Illinois river. The Caterpillar plant extends from the river bank for some distance inland, covering a total area of about 400 acres. The vaporizing and blending equipment is located

close to the tanks and the meter house is about 500 ft from there. A concrete wall is placed between each group of five tanks. A railroad side track extends along the yard and the ends of the tanks are close to the track for unloading purposes.

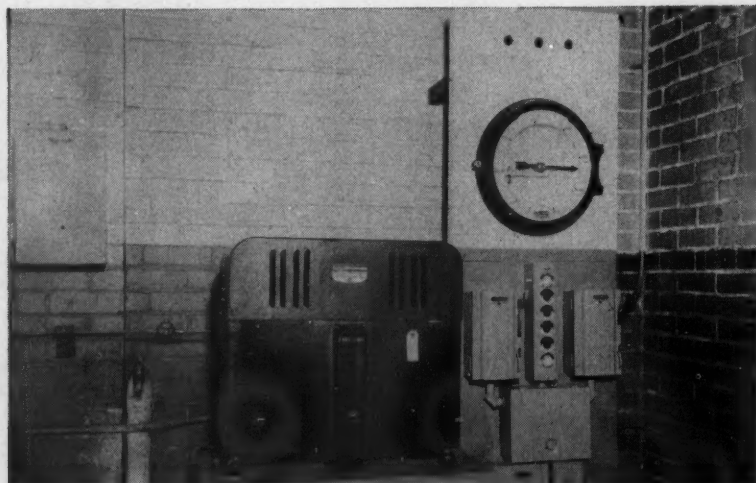
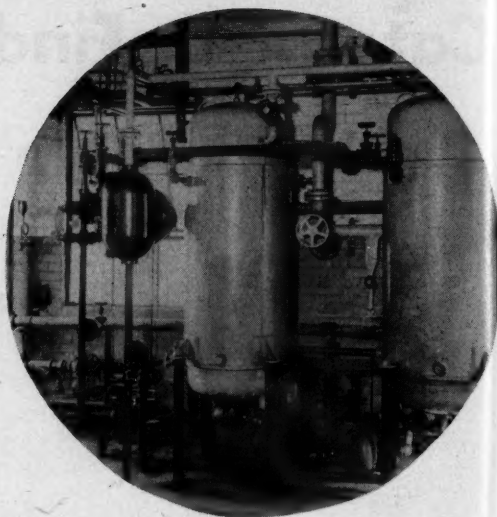
In addition to concrete walls between the various groups of tanks, other safety precautions are taken. A sprinkler system extends over the tanks so that in case of a fire, large amounts of water can be used to keep the tanks cool and the vapor pressure low. Each tank is equipped with two 4-in. relief valves. A hose house and fire extinguishers are also nearby.

Some problems in utilizing the gas had to be overcome in the early stages of the operation, according to H. R. McNeely, utilities engineer.

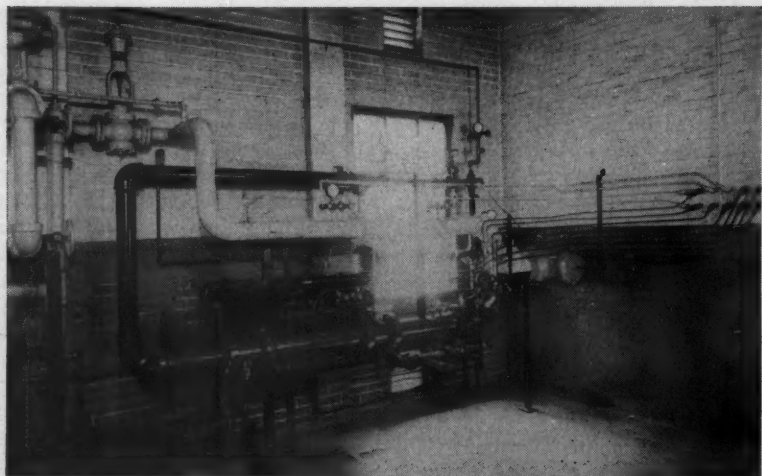
"We had some trouble with control of the Btu content of the gas in converting it on an exchangeable basis with natural gas, so far as the burners were concerned. We finally found approximately the right composition of gas through a search of literature and conversation with others who had had similar problems. It was simply a case of making a little different mixture in respect to the ratio of air to propane vapor.

"However, the Btu adjustment was not entirely perfected until recently. Since then we have had much better use of our plant facilities using L. P. gas. Final adjustment was made by using a correction factor, known as the Knoy factor, which takes into consideration both Btu value and

Propane vaporizer is housed close to the storage tanks. The complete Caterpillar installation is compact.



Mixture controller makes the Btu adjustment entirely automatic. An automatic recorder gives a visual check on the thermal content.



Propane gas-air blending equipment is near the vaporizer and also the storage tanks. The Caterpillar plant covers a total area of 400 acres.

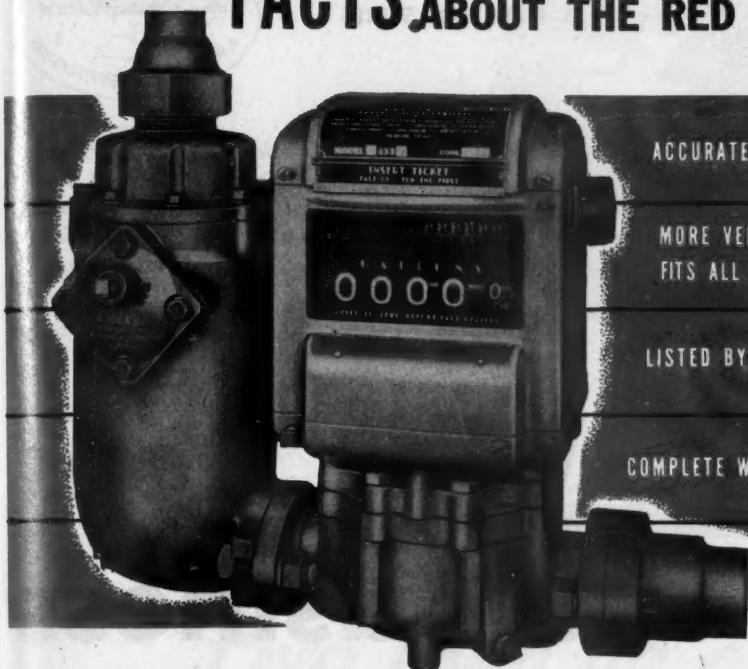
propane gas-air density to give a constant burner characteristic. A Cutler-Hammer mixture controller was installed to make the Btu adjustment entirely automatic. An automatic recorder gives a visual check on the thermal content of the fuel, and provides a permanent record."

The company watches its equipment closely to assure complete safety. "We have an inspection schedule whereby every five years the tanks are drained, the gas displaced, an interior inspection of the tanks made, and safety valves replaced. The equipment that was an approved type when the installation was made has now been replaced by more recently approved equipment, including relief valves, globe valves, etc.

"The extra difficulties encountered in using a standby fuel are offset by the dependability of L. P. gas—by having it when we need it. At present we employ approximately 23,000 persons and having the propane gas available when needed means constant operation of our plant, with no shut-downs or curtailment of production. It also means a tremendous lot to our employees, who do not have to lose time due to such a curtailment. Further, it is of inestimable value to the merchants and professional people who depend upon the Caterpillar payroll for much of their incomes.

"The use of liquefied petroleum gas has been of such great value to us in our Peoria plant that we have installed four tank standby set-ups at our Joliet, Ill., and York, Pa., plants."

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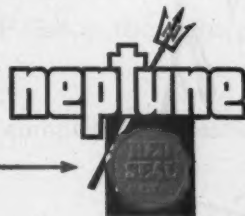
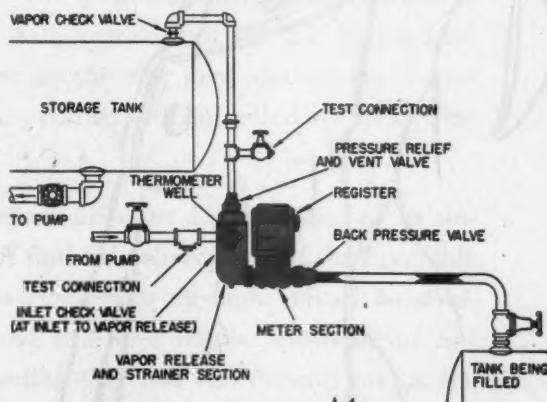
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A NEW BPN SERIES



This is the first in a series of articles by Irving Elbaum, Certified Public Accountant, on efficiency in business. Part I of this series, appearing below, deals with many of the causes of business failure. Future articles will deal with reduction of business overhead, finances, budgets and calculating costs.

Why Does a Business DIE?

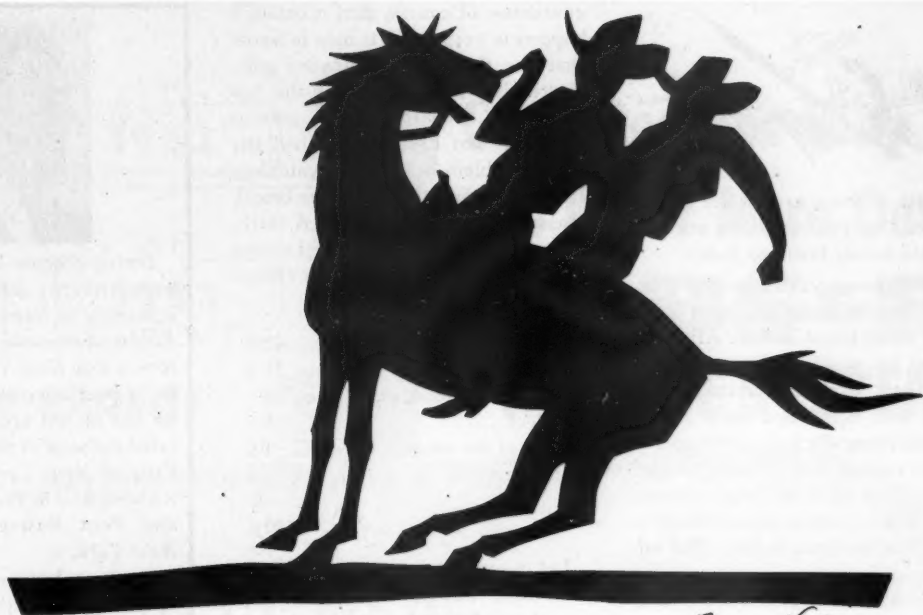
By Irving Elbaum
Certified Public Accountant

QUESTION: Why does a business die? **Answer:** Because in almost every case the management kills it!

Whether the business firm is a sole proprietorship, a partnership or a corporation, doesn't seem to matter. The blunt and inescapable fact is that homicide, accidental though it may be in many instances, is committed. And there are various murder techniques.

There seems to be a popular misconception regarding the ease with which the life of a small business can be sustained. More credit (but not necessarily more cash) is due small businessmen than the managers of larger business units.

There is very little doubt that sustaining life in any business, be it large or small, is a tough job, particularly during the present stage in our economy. There are as many economic indices on the side of the



Paul L. May

... two men on a horse

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optimists as there are on the gloomier side. Uncertainty is the one certain note facing business today.

Superimposed on this general business difficulty is the hardship faced by the small businessman. After all, consider his position. His business is usually not too well capitalized, is not as well controlled as a larger business, generally faces shortages of working capital, and receives a tighter credit line than its larger competitors. What it really comes down to in the final analysis is this: The advantage of having everything under the thumb of the owner is more than offset by the disadvantages which are concomitant with smallness—inadequate financial reserves and difficulty in decentralizing responsibilities among subordinates.

Let's delve into some figures concerning business failures. A recent survey made by Dun & Bradstreet indicated that only 78 out of every 10,000 businesses fail. This is truly amazing in light of the fact that many new businessmen have had little or no prior business experience. Incidentally, this statistic covers a period of fifty years and therefore can be considered extremely reliable. Naturally, there have been wide variations depending on the particular stage through which the economy was passing. Still this very low mortality rate should encourage every small merchant.

Statistic No. 2: Back in 1950 Dun & Bradstreet's survey showed that two out of every three concerns that failed had been in business for five



years or less. This fact isn't surprising, at least not as much as the later survey's results. Yet it should gladden the hearts of those among you who are over the five-year hump. No

guarantee, of course, that it couldn't happen to you, but it is nice to know that the figures are on your side. Currently, failures are on the up-trend and even though the serious stage has not been approached the entire problem bears close watching.

Just what are the basic, the broad, reasons that business dies? A fairly recent survey of 9162 failures comes up with the following reasons (listed in the order of importance):

Incompetence	42%
Lack of business experience	31%
Lack of rounded experience	14%
Neglect	6%
Fraud of the owners	4%
Miscellaneous	3%
	100%

Let us examine each group to learn something about it and to learn, where possible, what can be done to control some of the controllable factors.

Incompetence — Generally speaking, this group can be broken down into three categories: physical, emo-



tional and economic. It must be recognized at the outset that of necessity there are overlaps and vicious cycles among these categories. It is quite patent that what begins as an economic type of incompetence can soon become emotional and even end up as physical incompetence.

Physical incompetence is represented by an individual who cannot take the long hours or the heavy work necessitated by some businesses. It occurs not too often, yet it can easily get you down after a short while. The antidotes would seem to be selling the business before it dies on you; transferring the heavy duties to an employee, if possible; renting or buying labor-saving devices, and having a close relative help you with some of the administrative details.

Emotional incompetence is a very common reason for the failure of many business units. Many a man's personality is such that he is an excellent worker, but cannot stand the



Irving Elbaum is well qualified to contribute a series of articles on efficiency in business. A Certified Public Accountant in both California and New York (at present he is practicing in Los Angeles), he has taught accounting and related subjects at the College of the City of New York, Long Island Agricultural & Technical Institute and Poza Business Institute in New York.

During the war Mr. Elbaum served as a statistician for the Maritime Service and as a cost accountant for the U. S. Navy. Educated at the College of the City of New York and New York University, Mr. Elbaum is presently working in public accounting, taxes and systems in California.

responsibility that heading even a small business brings. It is only common sense that before someone goes into business he should ask and answer the following questions (among others) with all the sincerity he can:

Do I realize that the business may lose money and that I'll be in rough financial spots at times?

Can I take the responsibility of paying my creditors and my workers on time?

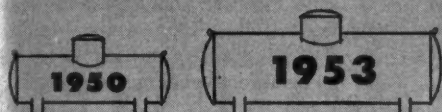
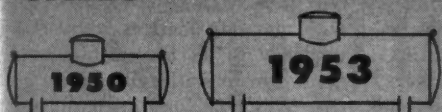
Will I mind working long hours?

Do I care for this type of business?

Am I ingenious enough to get myself out of a tight spot quickly?

With economic incompetence the largest factor is inadequate initial capital. The wise man who is thinking of going into a small business should take time out to make a fairly accurate calculation as to his financial needs to keep the business going for at least a year. Unfortunately, it has been my experience that far too many people start on the proverbial shoestring. They feel that once the initial outlay for machinery, furniture, fixtures, deposits, licenses, merchandise, supplies, etc. is made, things will take care of themselves.

SALES



DEALER PROFITS

2

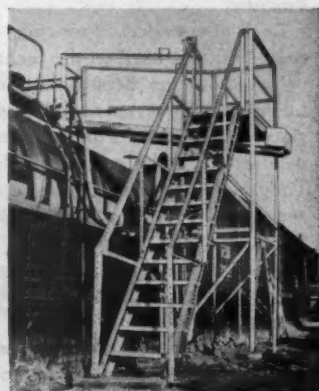
Good Reasons Why
You'll Get More Out of
Selling **BS&B**
PROPANE SYSTEMS!



The Most Important Reasons in the world for handling any product are simply (1) Will customers buy and be satisfied, and (2) Will it sell fast enough to make steady profits? With Perfection Propane Systems, the answer is a big "Yes!" on both counts. Dealer sales have steadily increased to the point where we've had to *double* our production facilities. You can be sure of satisfied customers since Perfection Systems are made by a company with more than 60 years experience in designing and building pressure vessels! Stock and sell BS&B Propane Systems for city home or farm use, or for small commercial installations.

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Here's another BS&B product that's sure to save money for LP Gas dealers — another reason why more dealers are switching to BS&B. Stops awkward unloading, makes walking sure and safe! New BS&B Unloading Rack reduces fire danger to a minimum ... needs only small space. Ladder or stairway located left side, right side or front as you specify. Loading rack folds out of way. Shipped knocked down, cut and marked for easy erection.



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Propane Equipment Division Dept. 6-AB6

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Kansas City 26, Missouri

Such could not be further from the truth.

It is most vital to prepare a simple, yet accurate, budget before the business is begun. This should show the estimated amount of cash needed not only to acquire the items mentioned above, but also to meet payrolls, overhead and to carry those customers who are not on a cash basis. One doesn't have to be a C.P.A. to prepare this simple calculation, yet it is so important for survival in our competitive economy.

I venture to say that at least half of all new smaller business firms are begun without making this type of calculation. Of course, this does not mean that, barring the preparation of this budget, failure is inevitable. Yet there can be no doubt in the mind of any prudent person that the elimination of this simple device is tantamount to having two strikes called.

One more point—it isn't absolutely necessary that the budget be reduced to written form. The important thing is that it be taken into consideration before the business venture is begun.

Lack of business experience—This covers lack of experience in business in general as well as in the particular line. The remedies will be suggested in many cases by reviewing the following list of typical symptoms of this illness: (1) No, or inadequate, records. (2) Overextension of credit. (3) Poor receivable collections. (4) Taking on too large a fixed overhead. (5) Not reducing the variable overhead when the going gets rough. (6) Overbuying or underbuying merchandise. (7) Too great an investment in fixed assets (machinery, equipment, fixtures, furniture, leasehold improvements). (8) Poor location. (9) Not knowing how to combat competition. (10) Not knowing this business.

Lack of rounded experience—This defect reflects itself in the technique of favoring one department of the business to almost a complete exclusion of the others. Former salesmen generally are the greatest violators. They have become so accustomed to seeing business through sales lenses that they find it very hard to place purchasing, credits, collections, etc. in their proper positions on the business scale.

Where a partnership exists the problem of rounded experience is

usually not as acute as it is in the case of many sole proprietorships, since each partner makes his own experience contribution and, what is probably just as important, can act as a sounding board for his partner.

It is a wise idea to make use of the firm's accountant, since his varied experience can prove invaluable in showing the owner the forest rather than the individual trees. In the last analysis the financial statements of the enterprise will prove most significant in highlighting any distortions that are occurring due to misplaced emphasis on some of the departments of the firm.

Another method of offsetting the disadvantage of the lack of rounded experience is to draw on the experience of others in your industry via trade periodicals, attending industry conferences, belonging to a trade association, etc.

Neglect—This is generally due to: (1) Poor personal habits. (2) Poor health. (3) Domestic difficulties.



Some of these foibles are difficult, others impossible, to eradicate. A logical view commands the owner to decide whether the difficulty is surmountable or not. If not, discretion should indicate that it might be wiser to sell the business rather than ruin it. In some instances, such as a temporary health deficiency, it is advisable to turn over the running of the business to a trusted employee or a close relative, or both, for a short while.

Fraud of the owners—This is symptomized by false financial statements, illegal disposition of assets, deliberate overbuying. Luckily for the business community this group represents only a small percentage of the total failures.

Miscellaneous—This covers such items as employe frauds, disasters, and unknown reasons for failure. Employe frauds and such disasters as fire, burglary, boiler explosion, etc. can be protected against at reasonable cost. The advice of an insurance broker should be sought not only at the inception of a business but on a

continuing basis. All too often a business is adequately covered for various types of risks when it begins, but with maturity there is sometimes a tendency to let the insurance program remain static. Obviously, business is dynamic and it therefore follows that an insurance program covering its risks should change from time to time. Even in a small business it is a smart thought to review the insurance coverages every month or two.

Awareness of the causes of failure can go a long way toward preventing failure. Action can go a longer way. The following list, by no means exhaustive, should give any businessman action ideas sufficient to prevent him from killing the source of his food, clothing, and shelter.

- (1) Join a trade association.
- (2) Read as many trade journals as you can.
- (3) Question suppliers and their salesmen about new developments.
- (4) Talk to your attorney, accountant, banker and insurance man about those phases of the business which come within their jurisdiction.
- (5) If you have a partner, discuss all phases of the business with him regularly. Remember, you're married to him commercially.
- (6) See your doctor if you're chronically tired.
- (7) Keep accurate, up-to-the-minute records.
- (8) Review your list of receivables regularly and often.
- (9) Digest your financial statements. Remember, they are not novels to be skimmed through. One item that your hurried eye misses may well mean the difference between success and failure over the long pull.
- (10) If, as and when things look hopeless don't commit any fraudulent act. You may regret it the rest of your life. Discuss your apparently insoluble problem with the proper professional. He'll steer you straight.

(11) Don't listen to the army of armchair generals. Many people delight in giving business advice, unasked for though it may be.

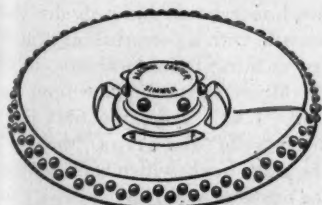
Coming

Part 2 of the series "Efficiency in Business" will appear in the July issue, and will deal with reducing business overhead.

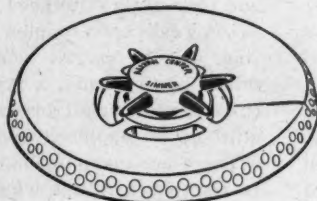
SHOWMANSHIP PAYS OFF!



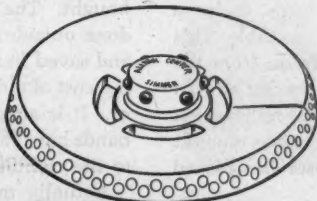
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A full range of intermediate heats when wide spread of heat is needed.



"Click"... efficient Center Simmer maintains boiling in any covered utensil.



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These tested demonstration ideas will increase your sales of gas ranges equipped with ALLTROL® CENTER SIMMER BURNERS

Unimaginative customers may look at your ranges—see only another attractive appliance. It takes more than sales talk to penetrate this wall of indifference. That's why showmanship is often the better part of salesmanship.

Modern gas ranges with Alltrol Center Simmer Burners can be shown dramatically... excitingly... to make them think, not in terms of mere appearance, but of easier cooking... better tasting meals... new convenience... a cooler, more comfortable kitchen. Use the proved sales-getting demonstration ideas that are yours for the asking. You'll see your sales take an upturn—fast!

FREE Sales Idea Book

"How to Sell More Gas Ranges" is a handy, pocket-size booklet that illustrates twelve simple, but dramatic, demonstration ideas. Write for your free copy today.

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ORIGINATORS OF CENTER SIMMER BURNERS



"SELL THE HUSBAND" Psychology

Helps Dealer Build Gas Appliance Volume

By Myra Hildebrand



GAS appliance dealers who have considered a profitable sale well on its way, only to have it fall through when an over-budget-minded husband says he can't afford it, will find the ideal answer in a clever system developed by E. H. Moser, veteran Philadelphia plumber.

Mr. Moser, a veteran of two decades of appliance retailing, covers most of the city with a six-man crew of outside salesmen. The firm is a heavy user of newspaper advertising, believes in "using the user" and regularly follows up every tip of any kind turned in. As a result, all of the outside salesmen spend 90% of their time giving demonstrations or sales talks to housewives.

This, in turn, has brought about the not unusual problem of getting around the husband once the housewife has been sold on a gas refrigerator, range, dryer, or freezer.

Mr. Moser learned years ago that often when the salesman falls down on closing a sale, the appearance of "the boss" at the prospect's home will work wonders. Accordingly, no sale which an outside specialty man gets under way is considered lost until Mr. Moser has made a visit to the prospect's home.

Mr. Moser thus regularly follows up on dozens of prospects who have been nursed along by the salesman, only to wither away because a hus-

band drew the pursestrings shut. He has realized that selling the husband is quite a different problem from selling the housewife and, therefore, he has set up a clever "closing system."

Where a kitchen appliance is concerned, Mr. Moser has developed a standard "clinchier." This is to get the husband and wife into the kitchen, seated around the kitchen table, and to bring from his pocket a plastic piggy bank. Having done this, the Philadelphia gas appliance dealer asks the husband whether he enjoys dining out. Mystified, the husband will generally reply, "Yes."

Conversation will usually develop the fact that the family eats out anywhere from once to half a dozen times a week. Mr. Moser is then cued to ask, "Do you ever leave the waitress a tip?" At the same time, he slips 35 cents or 25 cents under a plate in the center of the table. This usually rates top attention from the prospect. Invariably, the husband will retort that of course he leaves a tip, and usually of the same amount or more than Mr. Moser has placed on the table.

Then the dealer tells him that if he will merely set aside the same amount of money normally expended in tips when eating out, the amount will pay for the new appliance.

If the husband fails to see the connection, Mr. Moser merely points out

that it is the same thing as tipping his wife for her services. This leads to much merriment and provides the housewife with a powerful bit of leverage to bring the sale about.

Mr. Moser starts things rolling by saying, "I will make the first payment myself." He slips "the tip" in the piggy bank, which is presented to the husband, and in most cases, the sale is completed.

The dealer uses this same plan time and time again with good results in evening calls upon couples. On every such call, he carries along the familiar piggy bank, a pocketful of change, and a small amount of literature on the appliance involved.

There are many analogies similar to restaurant tips which can be drawn to impress upon the husband how cheaply appliances may be bought. The price of having shirts done outside when lumped together and saved in a bank will readily pay the cost of a dryer or hot water heater. It is surprising how many husbands have failed to give any thought to the cumulative amount.

Actually moving dimes, quarters, and nickels around on the surface of the table, and stacking up a week's savings from a handful of coins in his pocket, gets results for Mr. Moser. It is not unusual for him to place \$20 in quarters and half dollars on the tabletop as a "clinchier argument."

Field experience with thousands of Smith Pumps in every possible type of service has proven that in over 90% of the installations the Self-Adjusting packing holds up for the life of the pump, without adjustment, lubrication, replacement, or other attention of any kind, and *without leaks*. However, the 5 or 10% which need a packing change at some time can be replaced in a few minutes, without removing the pump from the piping, and no special tools are required.

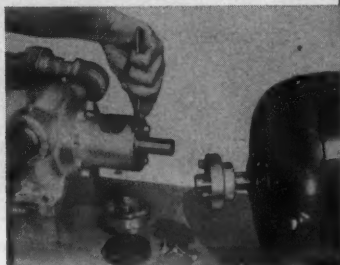
NO OTHER SHAFT SEAL,

NOT EVEN ORDINARY PACKING,

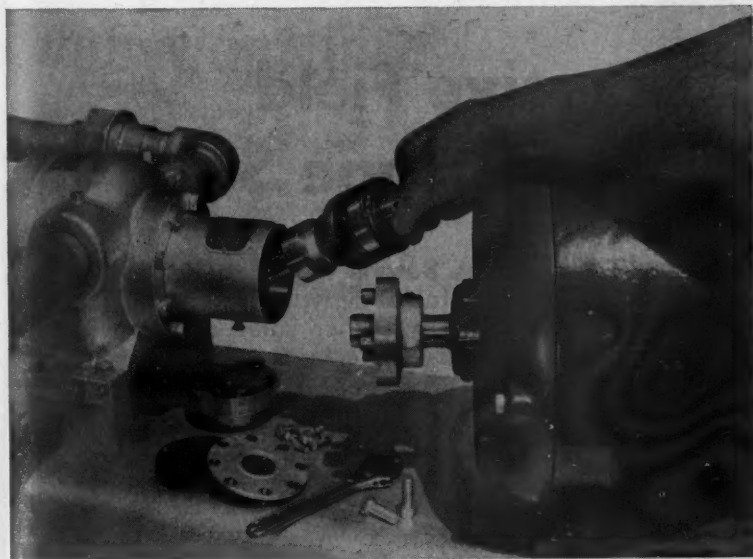
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Remove eight small screws
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and remove cover plate from housing.



All packing parts are attached to shaft
and slide out as a unit;
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JUNE, 1954

71



Alfalfa dehydrating unit, which utilizes butane for economical drying, is housed in a metal, barn-like structure on Joe Varisco's farm. Truck loaded with alfalfa backs into the barn.

Alfalfa — a Lucrative Field for Butane Sales

By Ruel McDaniel

Texas Butane dealer makes installation for alfalfa dehydrating plant, opening field for further sales and providing a needed service for farmers.

UNLESS they're adjacent to natural gas lines, large-acreage alfalfa growers represent a large and lucrative field for butane gas sales, according to the experience of H. P. Pittman, owner of Automatic Gas Co., Bryan, Texas.

Mr. Pittman discovered this industry two years ago, when a large-acreage farmer operating about seven miles from Bryan came in and wanted to know something about butane and whether or not it could be used successfully and economically to fire a heater for dehydrating alfalfa.

Mr. Pittman and the prospect went into all phases of the proposal. The outcome was a highly satisfactory installation, which consumes 75,000 gal. of butane annually at present and probably will be still a larger user as alfalfa acreage on this farm increases.

The customer-farmer is Joe Varisco, who farms 700 acres of alfalfa and more than 1000 acres of other crops. The dehydration plant primarily is for his own use, although if a neighbor wants to bring some of his alfalfa in for dehydration when the plant is not being used for the Varisco farm, the plant owner will handle it for a fee. "However," Mr. Varisco says, "I don't encourage this. Generally, when other farmers are cutting alfalfa, I am too, and I keep the plant pretty busy."

The only weakness in the business, from the butane man's viewpoint, is that it is seasonal. The rush season is about two months in the spring. There is a little production of alfalfa throughout the summer if there is sufficient rain, and there is a final cutting in the fall, just before frost.

"But," Mr. Pittman points out,

"most industries using butane are seasonal, so that is no serious objection. A point we like about it, too, is that the demand for butane for alfalfa dehydration starts just as our heavy consumer winter season peters out, and the demand ceases just as consumer demand picks up in the fall."

The installation at the dehydration plant consists of a 6000-gal. storage tank and three vaporizers. Mr. Pittman furnished and installed the vaporizers at regular charge.

The vaporizers and tank are about 50 yd from the plant itself. Mr. Pittman installed the lines from the vaporizers into the plant and the furnace. The vaporizers are No. 70 and the three burn between 75 and 100 gal. of gas an hour, according to Mr. Varisco.

The gas goes into a furnace from

Since 1880

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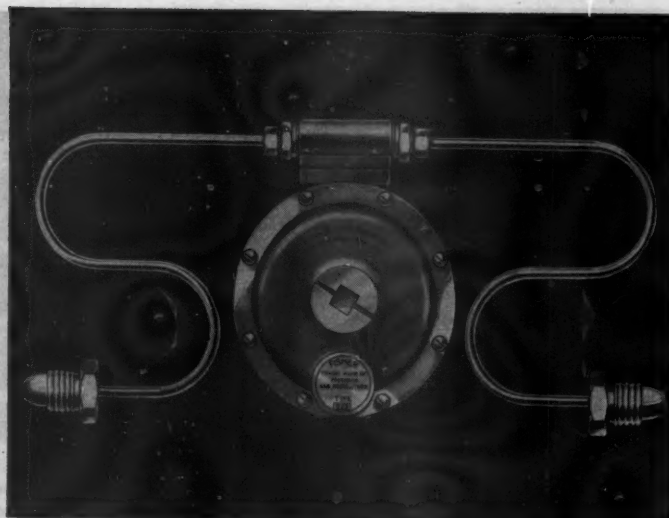
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Workmen at right adjusts the intake of butane in the furnace as the alfalfa is drying.



Inside the dehydrating plant, the alfalfa is unloaded into the grinder and then goes into the oven for four-minute drying.



Butane tank, holding 6000 gal., is located near the alfalfa dehydrating unit (in background). At right end of the tank are the three vaporizers.

the vaporizer lines, and the heat from burning the gas in the furnace goes by blower into the dehydrator, a long cylindrical unit with a capacity of 18 to 30 bags of dehydrated alfalfa an hour, the actual production depending on the moisture content of the alfalfa itself.

The temperature at the front of the revolving cylinder is about 1800°, while the opposite end carries a temperature which has dropped to about 375°. The alfalfa receives a quick,

even application of heat, however, for moving fingers inside the dryer keep agitating the hay. A batch remains in the dehydrator about four minutes before it is thoroughly dehydrated.

The alfalfa is chopped mechanically as it is loaded from the truck which hauls it from the field into the dehydrator. It is ground further as soon as it emerges from the unit.

Mr. Varisco utilizes most of the dehydrated product on his own farm, where he usually keeps a herd of 1000

to 2000 head of cattle on feed. If he has a surplus he sells it, but this is infrequent.

Mr. Varisco says that it costs him about \$7 per ton of alfalfa in the dry state for fuel. Green alfalfa contains as much as 70% moisture, the early spring cuttings having more moisture than that produced later. The higher the moisture content, the greater the fuel cost for dehydrating, Mr. Varisco points out.

There is only one fuel that can compete with butane, from a straight economy viewpoint, for firing a dehydrating plant, Mr. Varisco says. That is natural gas, and it is not economical unless the plant happens to be adjacent to a natural gas line or a gas well.

The only other logical substitute fuel in the area is crude oil, and Mr. Varisco says butane is much more economical than oil, and he likes the cleanliness and ease of using butane.

Mr. Pittman finds the plant a highly satisfactory customer in every way. By having a 6000-gal. tank on the premises, he is never called upon to make an emergency delivery. He checks the tank periodically, or checks with Mr. Varisco, and by so doing he is able to deliver gas to the plant when his equipment is not busy elsewhere, thereby reducing service to the plant to a minimum.

"We particularly like the simplicity of operating the plant," Mr. Varisco declares. When he first installed it, he employed an engineer to operate it. His other employees were farm hands. He encouraged them to learn to operate the unit, and when the engineer left, one of them had no difficulty at all in taking over the job of operating the entire plant, with the help of a routine laborer crew.

"This simplicity of operation certainly has reduced over-all operating costs of the plant," Mr. Varisco says, "and the simplicity starts with the butane system itself, which any man can learn to operate with just a little thought and observation."

Although this is presently the only alfalfa dehydrator customer Mr. Pittman has, alfalfa is a major crop in the area, and with this initial installation as a model, he thinks that it will be but a matter of time until he will land other similar sales. They may not be as large as this one, but regardless of size, they will make profitable butane customers.

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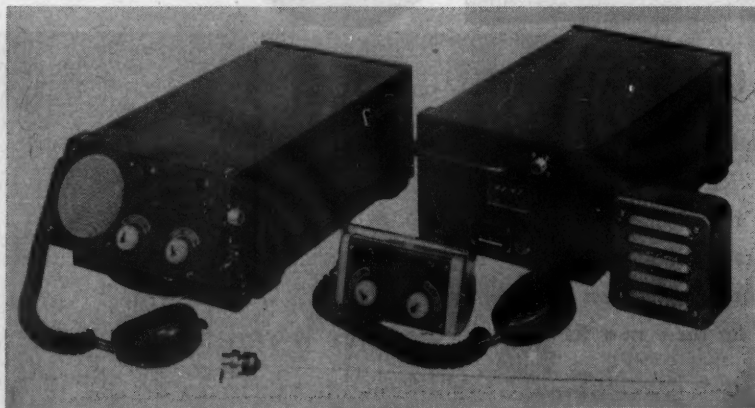
ANGLE VALVES



New Products and Trade Publications

To secure further information on products or new publications, fill out the coupon and mail, indicating by number the items desired.

1. Two-Way Radios



Motorola Communications & Electronics Inc. has announced a new line of 144-174 mc, 10- and 25-watt FM mobile two-way radios known as the Universal Uni-Channel series. The new models operate interchangeably from either 6- or 12-volt automotive electrical systems without any circuit modification whatsoever and feature a patented long-life, dual-interrupter all-vibrator power supply for operation of both the transmitter and receiver circuits.

The universal 6/12 volt feature incorporated in these new models is of paramount importance in view of the continuing trend in automotive design from 6 volts to the more efficient 12-volt electrical systems. The universal feature protects the radio investor for an extended amortization period during the transition in the automotive industry. It also permits greater flexibility in the operation of radio equipped fleets having vehicles with both 6- and 12-volt systems since mobile units may be interchanged indiscriminately without regard to the type of vehicle.

The power cable kits permanently installed in the vehicles differ with the battery voltage so that, in effect, automatic switching occurs when the unit is transferred from one vehicle

to another.

Economy of maintenance and operation is claimed. Tests have demonstrated vibrator life in excess of 1500 hours. With the new dual-interrupter vibrator power supply, battery drain is markedly reduced. For example, power drain during transmission is only 30 amperes at 6.3 volts, or 15 amperes at 12.6 volts, a drain roughly comparable to that of the average 10-watt mobile unit. Standby drain is only 11 amperes at 6.3 volts or 5.5 amperes at 12.6 volts.

Models are available for under-the-dash mounting with local controls and for trunk-mounting installation with the microphone, control head and speaker installed near the driver. Both units are 6 in. high, 9 7/8 in. wide and 18 1/4 in. long, a volume about two-thirds that of units of comparable power.

Transmitter, receiver and power supply are mounted on separate chassis which are assembled within a compact, drawer-type housing. All operational accessories are included as a part of each model. The 25-watt dash-mount type model is also available for 117 VAC utility station operation.

Motorola Communications & Electronics Inc.

2. Wall Heater

Holly manufacturing Co. has announced a new, NarroWall vented

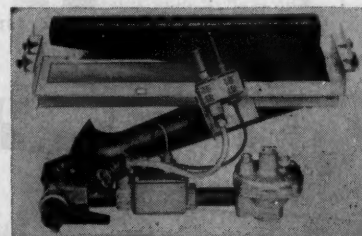


recessed heater which meets the new AGA requirements for a stiffer fire-hazard test and a new method of testing heaters resulting in improved installations.

The new NarroWall features the improved secondary heat exchanger, exclusive with Holly, which circulates extra warm air and saves in the cost of flue material.

A completely new burner design is also a part of the 1954 NarroWall. Holly engineers state that this burner assures perfect combustion of all gasses at all times. Each burner and control assembly is factory-tested under full operating conditions before shipment.

The new burner gives greater all-around clearance, making it easier



to connect the gas supply. The burner is easily installed and adjusted because simple burner fasteners give accurate alignment and air injection control is easily accessible.

NarroWall is available in 25,000- to 57,000 Btu input.

Holly Manufacturing Co.

3. Domestic Range

The "Chrome Queen," 40-in. range, model HQKV-62, is highlighted by a smooth, satiny chrome finish that has been applied to the top roll and extends across the entire front of the range. It is made by the Tappan Stove Co.

The new chrome trim presents a bright luxurious appearance and harmonizes with other kitchen accessories enhancing the overall beauty of any kitchen.

Among the various features found on the "Chrome Queen" is the chrome-lined "Flexo-Speed" oven, and the "Visualite" oven which permits the housewife to view the progress of any cooking operation without having to open the oven door. A "peek switch" in the right compartment is used to turn on the oven light



to illuminate the interior of the oven. This range also has the "lift-off" oven door to permit easy cleaning of the oven.

The "Pres-toe" broiler is another salient point of the "Chrome Queen." With just a touch of the toe the entire broiler drawer rolls "full out" for easy accessibility for cooking and cleaning. The broiler pan and grill are chrome plated for appearance as well as for faster searing.

Another outstanding cooking feature found on the "Chrome Queen" is the new Tappan "Contro-lo Heat" burners, also chrome plated, for the greatest heat flexibility possible. Turned on full these burners give quick heat for fast frying, etc, while at low temperature they may be used to keep food warm without further cooking. These burners are synonymous with more versatility, giving an infinite variation of cooking temperatures between the two extremes of high and simmer.

The Tappan Stove Co.

4. Suspended Heater

A 250,000 Btu, twin-fan model has been added to the line of gas-fired unit heaters manufactured by the Reznor Manufacturing Co.

The two fans, operating from a single heavy-duty $\frac{1}{4}$ hp motor, move 3200 cfm with an air throw of 83 ft. The smaller fans provide more effective air distribution at a much lower noise level than can be obtained with a single larger fan.

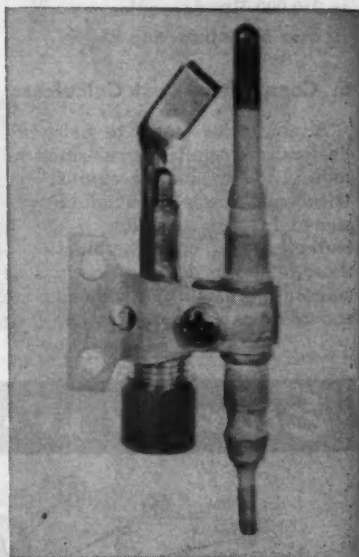
5. Non-Clogging Appliance Pilot

Maintaining a steady blue flame, evidence of perfect combustion, is the function of a new pilot introduced by Robertshaw-Fulton Controls, Co. for use in gas-operated appliances. It is titled "Target Pilot No. 2 B."

The new device called the "target pilot" was developed to overcome the susceptibility of many pilots to linting and clogging at the primary air intake. According to the company, the new pilot does away with such air intakes and will maintain the steady blue flame needed for proper safety control operation.

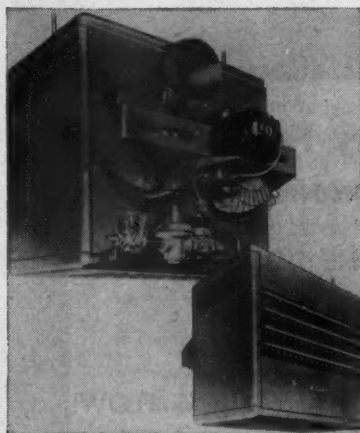
Clogging at the primary air intake, it is stated, causes ordinary pilots to give off a yellow flame, which does not transfer sufficient heat to the thermocouple. The absence of ample heat to the thermocouple results in insufficient millivoltage output and results in "false" safety shut-off.

Fabricated from stainless steel, the new target pilot has been thoroughly tested and offers dependable, main-



tenance-free operation, according to the company.

Robertshaw-Fulton Controls Co.



Flexibility of installation for large commercial and industrial applications is maintained by the use of a cabinet which is no higher than that used on Reznor's 175,000 Btu model (33 $\frac{1}{2}$ in.). The cabinet of the new unit is 36 in. wide and 24 $\frac{1}{2}$ in. deep.

Burner arrangement is from back to front rather than from side to side as on other Reznor heaters and the access panel to pilot and burners is across the back. The same swing down panel which is standard on other Reznor units provides complete and free access through the bottom of the heater.

The new 250,000 Btu unit is the ninth in the Reznor line of suspended



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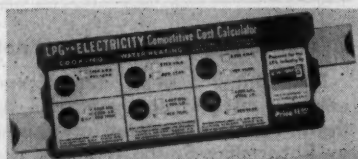
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models, which now range from 25,000 to 250,000 Btu capacities.
Reznor Manufacturing Co.

6. Competitive Cost Calculator

A new sales "tool" to help LPG dealers and appliance salesmen sell more LPG appliances against electrical appliances is available. Designed for use in selling ranges or water heaters, or a combination of these two with refrigeration, the calculator operates like a slide rule and shows quickly, in dollars per year,



the comparison of what it costs to operate these appliances on L. P. gas and on electricity, at whatever local rates may be.

Basis for the comparisons is the average annual usage of fuel as determined by the U. S. Department of Agriculture and set forth in its re-

cently released Technical Bulletin No. 1073. Families using more or less than the average would have varying annual costs, but the ratio between LPG and electricity would remain the same.

Simple enough for any school boy to use and any housewife to understand, the competitive cost calculator is priced at \$1 to readers of BUTANE-PROPANE News. Discounts on large quantities will be quoted on request. BUTANE-PROPANE News

7. Deep Fat Fryer

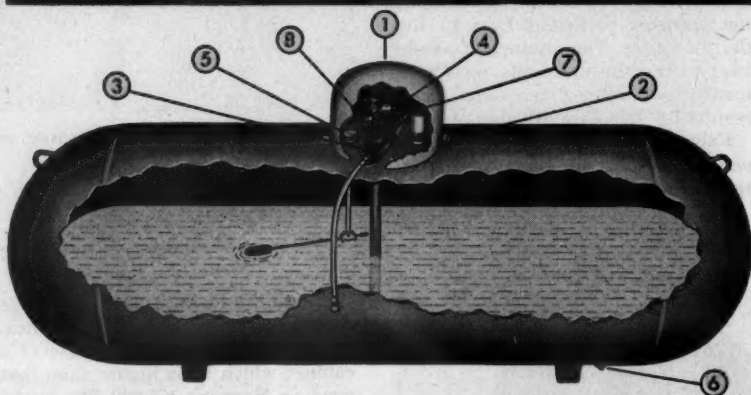
A high input deep fat fryer has been introduced by Magic Chef Inc. It is Model GC-29AS fryer and has 30% greater heat input than former models.

The new model features streamlined design, 65,000 Btu, one-piece burner, hallow basket racks, oil level basket markers, stainless steel back plate and toe base plate, one-piece open vat type tank, convenient drain pan, and automatic 100% safety shut-off as standard equipment.

Available is a choice of three finishes — black Japan, "Lustre-Line" (model shown), and stainless steel. Magic Chef Inc.



Economy LP-GAS SYSTEMS



Some of the many Features and Qualities of Economy Systems

- ① ONE PIECE STREAMLINE DOME!
- ② STURDY DETACHABLE HINGE!
- ③ LARGE ORFICE REGULATOR!
- ④ LIQUID TAKE-OFF, BUILT-IN EXCESS FLOW!
- ⑤ FLOAT GAUGE, REPLACEABLE SNAP-ON DIAL!
- ⑥ BOTTOM PLUG FOR LIQUID, OR CLEAN OUT!
- ⑦ LIQUID LEVEL OUTAGE GAUGE!
- ⑧ PRESSURE GAUGE OUTLET!

SEE US BEFORE YOU BUY!

Economy Truck Tanks, Transports, Skid Tanks, Anhydrous Ammonia Tanks and all types of Steel Fabrications.

VICKSBURG TANK COMPANY, INC.

409 LEE STREET

• VICKSBURG, MISS.

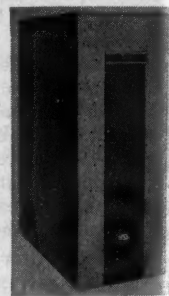
8. Air Conditioner

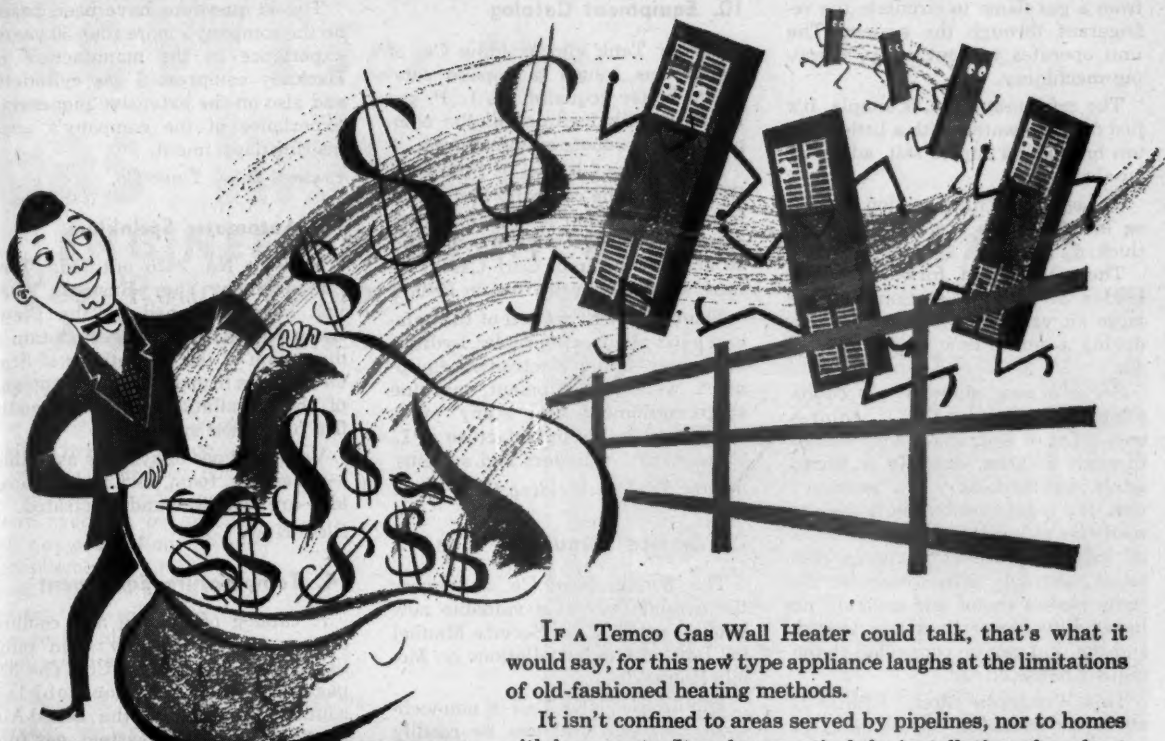
First production models of a new 2-ton, gas-operated summer air conditioner started coming off the lines at the Servel factory in March. This unit, identified as Wonderair EB-RG, is the first automatic gas cooling equipment that can be added to existing warm-air heating systems.

The new Servel unit provides everything needed for hot-weather comfort. It cools, dehumidifies, cleans and circulates the air. For between-season use, a switch provides cleaning and circulation alone.

Principal parts of the 2-ton cooler are an absorption refrigeration unit, a filter section, and a centrifugal blower.

The absorption refrigeration unit has no moving parts. It employs heat





**Don't
fence
me in!**

TEMCO, Inc.
NASHVILLE 9, TENNESSEE

*Builder of over
1½ million gas appliances*

If a Temco Gas Wall Heater could talk, that's what it would say, for this new type appliance laughs at the limitations of old-fashioned heating methods.

It isn't confined to areas served by pipelines, nor to homes with basements. It makes practical the installation of gas heat in homes with slab foundations and in second-story apartments and upstairs rooms.

Stock and sell the Temco Gas Wall Heater and your sales and profits will no longer be fenced in either. It's your best bet for better business, because it's your customers best bet for economical, healthful, clean, perfectly controlled gas heat—from an attractive, low-cost, space-saving unit, styled to blend with the decor in the finest homes!

Check these Features:

- ★ Built by America's gas heat specialists—Temco.
- ★ Backed by a strong program of national advertising.
- ★ Priced within budget range of every family.
- ★ Fits between standard studding.
- ★ Retains color permanently due to new high temperature Silicone finish.
- ★ Stays cool to the touch due to design and insulation.
- ★ Carries full 10-year warranty on Porcelain Enamel Heat Chamber.

TEMCO, Inc., Department B-625
Nashville, Tennessee

Please send me catalogue and complete story on
TEMCO Gas Wall Heaters.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

from a gas flame to circulate the refrigerant through the system. The unit operates without noisy, vibrating machinery.

The refrigerant, too, is simple. It's just distilled water, with a little lithium bromide, a simple salt, added as an absorbant.

The spun-glass filter section has 500 sq in. of surface area, and is 2 in. thick.

The oversized, forward-curving blades of the fan section provide large air volume at slow speed, producing a gentle flow of conditioned air.

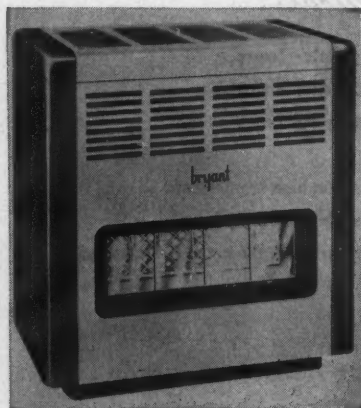
Servel's new summer air conditioner is so compact that it requires only 8.7 ft of floor space, and will go through a 30-in. door. It is preassembled at the factory as a "package" unit, and is delivered to the home site ready for connection to the ductwork of existing warm-air systems. Because electricity is used only for the ¼-hp blower motor and controls, no heavy-duty power lines are needed, and the unit can be connected to the regular house circuit.

This Wonderair Model EB-RG is made for operation on all types of gas, including liquefied petroleum gas.

Servel Inc.

9. Radiant Circulator

This is a deluxe, L. P. gas-fired heater manufactured by the Bryant heater division of Affiliated Gas Equipment Inc., and is one of five 1954 models of various sizes having wide varieties of control options and



optional equipment to meet demands for space and wall heaters for all gases.

This model—No. 432—is a radiant circulator, having Btu ratings of 35,000, 50,000 and 75,000 Btu per hour. *Bryant Heater Division
Affiliated Gas Equipment Inc.*

10. Equipment Catalog

Master Tank and Welding Co. of Dallas has issued a 54-page catalog to better acquaint the L. P. gas industry with facilities of the company and products manufactured.

Since it was founded in 1936 by S. O. Weempe, the company has grown from a small shop to a plant which covers 125,000 sq ft of floor space and 30 acres of ground. Carl Casey became a partner in the firm in 1940.

The equipment section of the catalog shows pictures of presses, hydraulic power units, electronics equipment, welding equipment, machine shop equipment and many other items used in the manufacture of L. P. gas tanks, cylinders and systems.

Master Tank & Welding Co.

11. Service Manual

The Weatherhead Co. announces the availability of a valuable new booklet entitled, "A Service Manual for Bottled Gas Installations on Mobile Homes."

The booklet is written in non-technical language and can be readily understood. It describes the function of storage cylinders, and also explains L. P. gas regulators and how they operate. One section is devoted to instruction on how to test for leaks and how to use a water manometer for checking and adjusting gas pressure. Many common problems are cited, and suggestions for preventing costly service calls are given.

The booklet is available on request at no cost from The Weatherhead Co., manufacturers of a complete line of L. P. gas cylinders and installation equipment for mobile homes.

The Weatherhead Co.

12. Cylinder Construction

L. P. gas cylinders represent a considerable capital investment. Also, the costs of routine cylinder maintenance and periodic repainting and inspection of cylinders are regular items of overhead expense which have their effect on business profits. With the thought that the small businessman in the LPG industry could profitably use a check list of cylinder features and maintenance points in his efforts to obtain the greatest return for his cylinder investment, Pressed Steel Tank Co. has prepared a list of 40 questions and answers. These are presented in a convenient pocket-size booklet which advises the cylinder owner to "See The Whole Picture . . . and Save."

The 40 questions have been based on the company's more than 50 years' experience in the manufacture of Hackney compressed gas cylinders, and also on the extensive pioneering experience of the company's engineering department.

Pressed Steel Tank Co.

13. Automatic Sprinklers

Bulletin No. 2426 entitled, "Fire Can Destroy Your Business," has just been published by the Blaw-Knox Co. Its eight pages contain a discussion of the past effects of fires on business firms and the advantages of the installation of an automatic fire protection system.

Various types of systems available—water, fog, foam, and carbon dioxide—are discussed and illustrated.

Blaw-Knox Co.

14. Temperature Equipment

A catalog of heating and cooling equipment has recently been published by the Coleman Co. The 32-page illustrated two-color booklet contains sections on the Blend-Air heating and cooling system, gas furnaces, air conditioning, wall and water heaters and accessories.

The Coleman Co.

15. Valves

The Harper-Wyman Co., manufacturers of component parts for gas ranges and other gas appliances, has announced the publication of a colorful, comprehensive new catalog of 32 pages.

It includes complete information and specifications for all Harper-Wyman products—"Alltrol" center simmer burners and valves, "Hi-Low" burners and valves, top burner valves, shut-off valves, oven and broiler valves, clothes dryer valves, space heater valves, filters, orifices, jets, orifice adapters, automatic lighter parts and related products and supplies.

This catalog contains a wealth of information and specifications and is expected to be a standard reference for gas appliance manufacturers. All Harper-Wyman products requiring American Gas Association Testing Laboratories approval are listed for use on approved appliances and are so designated in the catalog. This makes it a valuable reference for distributors.

Copies of the new Harper-Wyman catalog are available upon request to members of the gas appliance industry.

The Harper-Wyman Co.

NEW! for the Gas Industry

ENGINEERED TO INCREASE YOUR SALES
Year 'Round Comfort
And Convenience

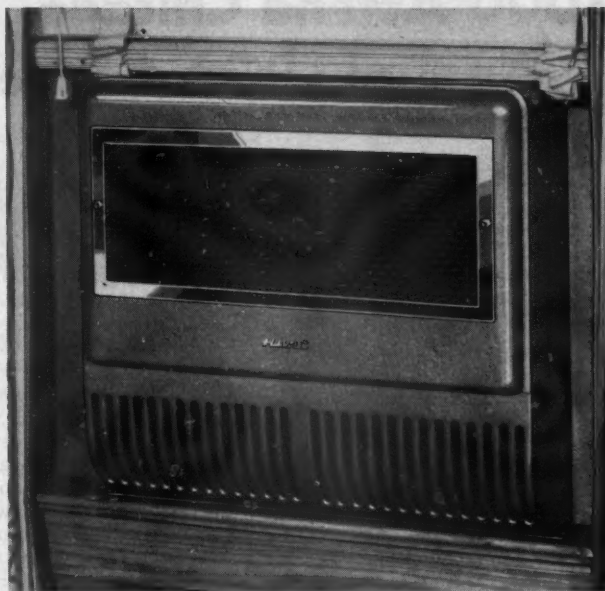
Space Saver

The new Hunt Window Heater is truly a space saver as it fits practically flush in all double hung windows. There need not be any venting, gas connections or other paraphernalia inside the room. Forced hot air from the top grill will allow furniture to be placed under the window heater.

Summer Air Circulator

Forced air circulation of approximately 400 cubic feet per minute gives you the perfect air circulator for hot summer nights. The Hunt Window Heater is adjustable to bring in cool night air for better cooling than from most any type window fan.

Fits any
standard
double hung
window
24" x 24"
or larger



Two sizes, approximately 25,000 and 40,000 BTU

Burns Outside Oxygen

The burner on the new Hunt Window Heater takes all of its oxygen for combustion from the outside air. This leaves 100% of the oxygen in the room for comfort and health.

By making a simple adjustment from inside the room, you can pull in fresh air from the outside to suit your needs.

Hammertone Finish

The simple lines of the Hunt Window Heater and its neutral hammertone finish make it an attractive and fitting addition to any room. There are no gas pipes or vent pipes that show, making it one of the neatest space heaters available today.

HUNT WINDOW HEATER

Install in Only 15 minutes

**USE ONLY A SCREW DRIVER
NO HOLES TO BORE**

**NO WALLS TO CUT
NO VENTING**

REQUIRES NO PIPE

Since this advertisement was prepared during the engineering stages of the product, all statements are subject to adjustments

SUMMER CIRCULATION

Cool air is pulled from the outside and forced into the room through the upper grill at the rate of 400 cubic feet per minute.

QUIET BURNER

Slotted type burner made of cast iron. Absolutely no noise while burning, when igniting or extinguished.

SAFETY PILOT

Safest heater ever built. Has all the safety features of a forced air furnace including safety pilot and limit control.

HEAT CIRCULATION

Hot air is forced from the top grill upward and out into the room returning along the floor area to warm floors and back into bottom air intake.

CIRCULATOR FAN

Quiet, circulates approximately 400 cubic feet of air per minute when used as heater or as air circulator in summer.

HEAT CHAMBER

Glass lined to assure longer worry free operation. Guaranteed for years.

Write today for folder and prices on the HUNT WINDOW HEATER

**Manufactured
and Developed by**

HUNT HEATER CORPORATION
220 12th Avenue, North Nashville 4, Tennessee



ASSOCIATION NEWS

3000 Attend Chicago Annual LPGA Convention

MORE than 3000 representatives of the fast-growing L.P. gas industry from every state in the nation and several foreign countries attended the four-day annual convention and trade show of the Liquefied Petroleum Gas Association at the Conrad Hilton hotel in Chicago, May 9-12.

A record-breaking exhibit of the latest L. P. gas appliances and equipment opened Sunday, May 9, at 1 p.m. The speaking program started Monday with a stirring address by Douglas R. Stringfellow, freshman congressman from Utah, who won the Freedoms Foundation award in 1951 and was recently named one of America's top young men by the United States Junior Chamber of Commerce. He spoke on the subject "What Price Peace."

W. R. Sidenfaden, president of Suburban Gas Service of Upland, Calif., was elected new president of LPGA. Mr. Sidenfaden has been active in LPGA since 1940 and was first vice president last year.

Other officers elected include: A.

C. Ferrell, president, A. C. Ferrell Butane Gas Co., Atchison, Kan., first vice president; John McQueen, president, Superior Propane Ltd., Toronto, Ont., second vice president; A. H. Menuet, Skelly Oil Co., Kansas City, Mo., treasurer; and Arthur Kreutzer, secretary. Howard D. White is executive vice president of the association.

M. L. Trotter, Carolina Butane Gas Corp. of Columbia, S. C. presided at the convention and reviewed recent industry and association progress at the Monday afternoon session. Of outstanding interest was the report of Membership Chairman A. E. Bone of Malvern, Pa., in which he announced that membership has now grown to more than 2300.

Dr. Bergen Evans, professor of English at Northwestern university and moderator of the network television show "Down You Go," spoke at the Wednesday luncheon.

Seven sectional meeting featuring talks and open forums on subjects pertinent to the marketer, producer, appliance manufacturer, utilities, equipment manufacturer, tank fabricator and international branches of the industry were held simultaneously Wednesday afternoon. Speakers included: W. F. De Voe, assistant to the sales manager, Phillips Petroleum Co.; Harold Massey, assistant managing director, Gas Appliance Manufacturers Association; Grant Haas, sales manager, Rapid Thermo-Gas Co.; K. H. Dickson, president, Uregas Service; Sidney Stapleton, general manager, Consolidated Gas Gas Co.; Tom Ennett, president, Rockford Propane Gas Co.; and Don Lindvall, director of heating, Central Illinois Electric & Gas Co.

E. H. Groppe, development engineer, Monsanto Chemical Co., said that particular importance is attached to the increasing use of LPG and related refinery products as a source of chemical raw materials for the production of such commodities



W. R. Sidenfaden (right), president of Suburban Gas Service, Upland, Calif., and new president of LPGA, accepts the president's gavel from outgoing leader M. L. Trotter of Carolina Butane Gas Co., Columbia, S. C.

as synthetic rubber, plastics, solvents, detergents, and insecticides. The proportion of these products to be derived from propane and butane in the future will depend on several economic factors, including the then current prices of these gases and other adaptable source materials.

Mr. DeVoe's report on underground storage brought this picture up to date, showing that the present status of storage at or near production points is approaching adequacy, but emphasizing the need for more storage facilities closer to the major markets.

Harold Massey, assistant manager



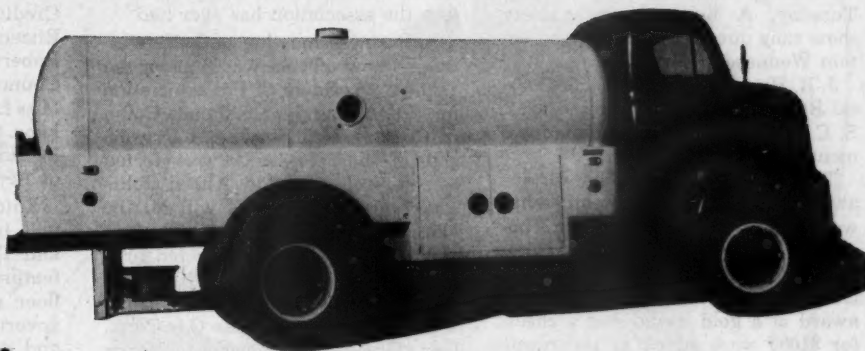
H. Emerson Thomas, president of H. Emerson Thomas & Associates of Westfield, N. J., was honored at the closing luncheon of the annual LPGA convention. Mr. Thomas, left, receives the distinguished service award from George W. Bach of Vapotane Corp., Kansas City, Mo.



Red-headed Patricia and Dorothy Van Keulen of Chicago reigned as the L. P. gas twins—Miss Butane and Miss Propane—at the 1954 LPGA convention held in Chicago.

GREATER *PAYLOAD* THAN EVER

Pictured 2450 WG Twin mounted on RC-182 International chassis. Built for Ready-Flame, Inc., Kokomo, Ind.



HAROLD TENBROOK SAYS:

"We can deliver much more gas per man day with this equipment than we can with standard bob-tails and I am sure our delivery cost will be much lower."

2000 WG Twin 46" Dia. U69
200# WP or 1950 250# WP
(For 84" Cab to Axle Chassis)

2175 WG Twin 46" Dia. U69
200# WP or 1950 288#
(For 102" Cab to Axle Chassis)

2450 WG Twin 46" Dia. 1950
250# WP X-Rayed and stress
relieved
(For 108" Cab to Axle Cab over)

Ready-Flame INC.
DIVISION OF TENBROOK SALES
OFFICE 324 N. BUCKEYE ST.
KOKOMO, INDIANA
October 28, 1953

Mr. W. N. Peacock, Jr.
Chief Engineer
Trinity Steel Company, Inc.
3301 South Lamar Street
Dallas, Texas

Dear Mr. Peacock:

I want to take this opportunity to tell you that the 2450 Water
Gallon tank that you mounted on our RC-182 International is making
a very fine delivery unit. After we equipped the truck with pump,
meter, etc., and loaded 90 net canisters, we had a gross load of
23,740 lb. The tank weighs 6,060 lb., and the truck handles very nicely. We can
deliver much more gas per man-day with this equipment than we can
with standard bob-tails, and I am sure our delivery cost will be much
lower.

I have had a lot of favorable comment on this truck and other
bulk gas delivery units in the future.

Yours truly,
H.C. TenBrook
H. C. TenBrook

TRINITY Engineers, in co-
operation with leading LPG
dealers, have again designed and
engineered equipment to make
you money.

Larger capacity delivery trucks
completely equipped are defi-
nitely the answer to many
dealer problems — so why
not let us assist you with
complete engineered details
and specifications without
obligation.

TRINITY STEEL COMPANY INC.
EVEREADY
GAS SYSTEMS

3301 SOUTH LAMAR STREET • TEL. HU 8321 • DALLAS, TEXAS

of GAMA, reported on new developments in gas appliances, emphasizing the developments which will make gas ranges more efficient.

The exhibit of L. P. gas appliances and equipment, covering 45,000 sq ft of display space, was open to the trade Sunday afternoon, Monday and Wednesday mornings and all day Tuesday. A banquet and variety show rang down the convention curtain Wednesday evening.

J. R. Herrin Jr., president of Coastal Butane Gas Corp., Summerville, S. C., was chairman of the arrangements committee.

The annual distinguished service award and honorary life membership were conferred on H. Emerson Thomas, Westfield, N. J., the presentation being made by past president George W. Bach. An accompanying award of a gold medal and a check for \$1000 were added as the result



Sid Stapleton (standing) of Consolidated Gas Co., Atlanta, Ga., signs up Nick Caeter (left) president of Peerless Manufacturing Corp. and Joe Falk, president of Gas-Kit Co. Inc. to support the national L. P. gas promotional program. Manufacturers signed membership forms in trade show booth of National Council for LP-Gas Promotion at the convention.

of a foundation established for this purpose by Louis E. and Simon Seley. The brothers recently sold the Conservative Gas Corp. of Long Island after many years in the business, and established the Seley Award in appreciation of the opportunities accorded them by the L. P. gas industry.

Following a change in the plan of assisting students at Southern Technical Institute from a scholarship to a loan basis, gifts to the loan fund were announced. Peter A. Anderson offered at the committee meeting to contribute \$5000, contingent on the securing of a like amount from other sources, including the amount then available in the Gas Fuel Technology Foundation fund. Contributions from other sources completed the quota almost immediately, and the gifts were announced at the final meeting of the association.

New England LPGA Holds Annual Meeting

Some 160 people attended the recent annual meeting of the Liquefied Petroleum Gas Association of New England at the Hotel Bradford in Boston. According to Secretary Lou Davis, this is one of the best meetings the association has ever had.

A business meeting and the election of new officers was first on the agenda. President of the association for the coming year is James Coffin of Country Gas Service. Larry Jagoda of The Coleman Co. was elected secretary-clerk, while Alfred Johnson, Empire Stove Co., will fill the office of treasurer.

State vice-presidents elected are: Massachusetts, Lou Wenzel, Gas Inc., Lowell; Rhode Island, Sanford Hammond, Suburban Propane Gas Corp., East Greenwich; Vermont, Henry Merrill, Merrill Liquid Gas Co., Brattleboro; New Hampshire, A. J. Brown, Concord Gas Service Corp., Concord; Connecticut, B. Stevens, F & S Oil Co., Waterbury; Maine, Clyde Jacobs, Dead River Oil Co., Houlton. Director at large is Norman W. Bangs, Community Gas Co., Derry, N. H.

Following the business session in the afternoon, there were three simultaneous panels on sales, service and safety, and management. Arthur Newman of Glenwood Range Co. was chairman of the sales panel. Service and safety was headed by Walter Hoagland of Fisher Governor Co., while H. Emerson Thomas of H. Emerson Thomas Associates chaired the management panel.

After a friendship social hour and the evening banquet, R. H. Mahnke, vice-president in charge of district organizations of the LPGA, spoke on "An Investment in Your Future."

Arkansas Butane Dealers To Meet In Little Rock

The fifteenth annual Arkansas Butane Dealers Association convention is scheduled for June 6-8 at the La-Fayette hotel in Little Rock.

According to chairmen Otis S. Cash and James S. Moseley Jr., "We have a full speaking program scheduled, we have one of the finest floor shows lined up and we have plenty of entertainment planned for the ladies. We also have favors for all on hand and the hotel has plenty of rooms available."

The convention will open on Sunday evening, June 6, with the president's reception, with President Cash and his five immediate predecessors and their wives hosting. Registra-

tion will precede the reception and will continue on Monday and Tuesday mornings.

The speaking program will open on Monday, with seven speakers scheduled to appear during the three day session. Among the prominent speakers on the program are: President Morris H. Wright of the LPG-Credit Corp., Vice President A. B. Ritzenthaler of Tappan Stove Co., Robert E. Borden of the National Council for LP-Gas Promotion, and Miss Lera Jeanne Rowlette of Texarkana, Arkansas' only woman state legislator and member of the House of Representatives.

Entertainment and social events will include luncheons on Monday and Tuesday, the annual fun party featuring state talent, dinner-dance-floor show on Tuesday, tea at the governor's mansion for the ladies, and a visit to Fox Gardens. Governor Francis Cheery will give the address of welcome to the convention.

Importance of Promotion Stressed At Nebraska Meet

Addressing the ninth annual meeting of the Nebraska LP-Gas Dealers Association recently, Ralph H. Trester told the L. P. gas dealers that they could ride the bandwagon of gas promotion in a cooperative campaign coming up with the gas utilities industry. Mr. Trester spoke of the importance of both pipeline and tank-type distribution systems combining forces to merchandise their single product—gas.

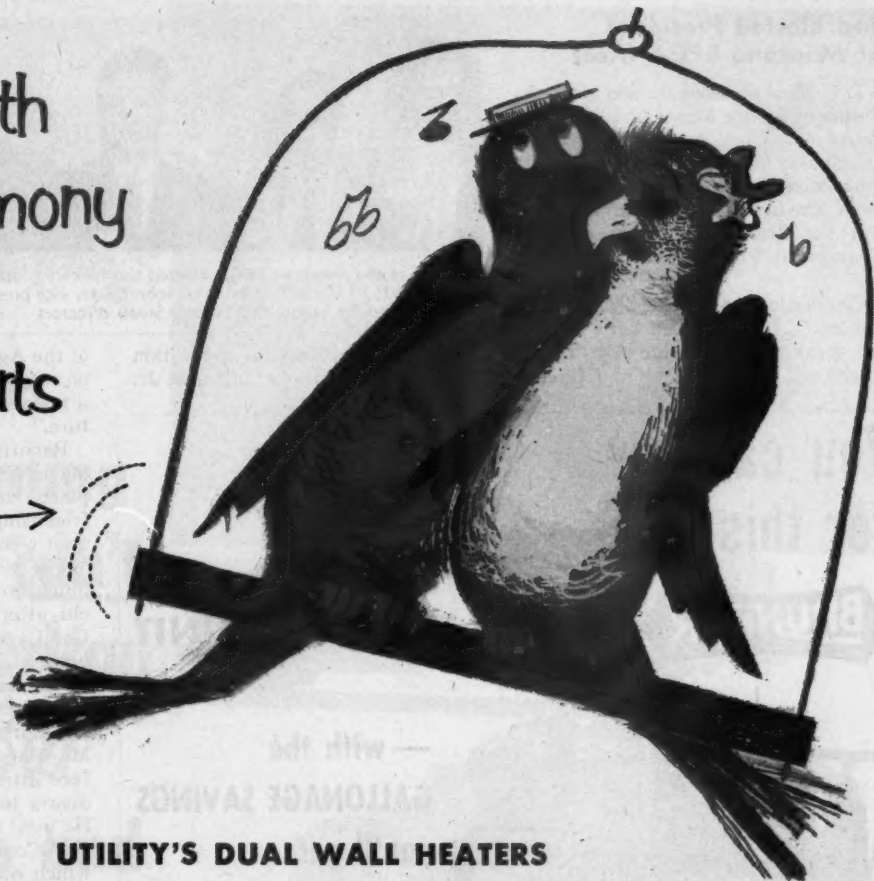
Mr. Trester spoke of interesting management in having a program of high advertising impact to sell the gas idea to potential customers and also to the industry's own employees.

Other features of the Nebraska meeting, held at the Fontenelle hotel in Omaha, were the manufacturers' exhibits and suppliers' open house, a cocktail party in the evening, and a special welcome to the ladies by Elaine Jabenis of radio and TV.

Convention addresses included L. P. gas do's and don'ts by Ed. J. Casper, a talk on selling in the appliance business by Louis M. Snyder, and Floyd F. Campbell explaining the uses and advantages of vapor type meter systems.

Nels E. Danielson of Omaha stressed the importance and advantages of Nebraska dealers tying in with local farm implement dealers to demonstrate and prove the availability and use of L. P. gas for tractors. According to Mr. Danielson, approximately 5% of the 143,000 farm tractors in Nebraska are equipped with L. P. gas.

warmth
and harmony
in two
parts



UTILITY'S DUAL WALL HEATERS

For efficient heating of two adjoining living areas, the best choice is an attractive, dependable Utility Dual Wall Heater.

Easy to slip into standard 4" stud walls, these heaters keep installation costs at a minimum. Their subdued, smartly styled front panel with rich luster baked enamel finish and matching grilles makes them welcome in every home interior.

Equipped with 3-heat manual control,

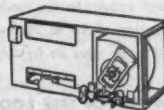
Utility Dual Wall Heaters are also available with thermostatic control. Adjustable damper allows for circulation of warm air to one or both living areas. High velocity discharge eliminates cold zones, drafty corners, and lazy, stagnant hot air; insures overall economical, efficient heating.

AGA-approved... 35,000 or 50,000 BTU. Single wall heaters, 27,500 BTU. Ideal for heating of apartments, homes or duplexes.

GAFFERS & SATTLEN
AND OCCIDENTAL
AUTOMATIC GAS RANGES
UTILITY
FURNACES
AIR COOLERS
WATER HEATERS



a happier living family tree...
all branches of



see the complete UTILITY heating line now



UTILITY APPLIANCE CORP., DEPT. BPH6
4851 S. Alameda St., Los Angeles 58, Calif.

Please send me free information on:

- ☐ Utility Automatic Heating Equipment
- ☐ Utility Cooling Equipment
- ☐ Utility Automatic Gas Water Heaters

Name _____

Address _____

City _____ Zone _____ State _____

Bird Elected President At Montana LPGA Meet

T. C. Bird of Missoula was elected president of the Montana Liquefied Petroleum Gas Association by a unanimous vote at the recent meeting held at the Hotel Florence in Missoula. The new vice president is John Kurtz of Great Falls; the secretary-treasurer is Philip C. Bird of Kalispell.

Convention-goers heard talks by Robert O. Bates of Dearborn Stove Co. speaking on "People Are Your Business," F. W. Commins of Calor



Members of the Montana LPGA elected the following officers at their recent convention (left to right): T. C. Bird, president; John Kurtz, vice president; Philip C. Bird, secretary-treasurer; and Ed Skabo and Everett Steel, directors.

Gas Co. on the industrial application of L. P. gas, and Robert Strawn Jr.

of the Agricultural Equipment Corp. on weed burning. The group also saw a movie on "Motor Fuel With a Future."

Reports of officers and committees and a discussion on legislation took place during the convention. A friendship hour and following banquet were also held.

The convention concluded with a luncheon and a talk by John J. Marchi, attorney for the Montana Oil & Gas Conservation Commission, who brought greetings from the governor of the state and discussed the petroleum industry's \$100 million yearly expenditures in the state of Montana. Mr. Marchi stated that this expenditure attested to the faith of the industry in the oil future of Montana. He went on to explain the new Oil & Gas Conservation Commission law which was effective April 1.

It was decided that the 1955 convention will be held in Butte. Frank D. Bird and George Steele were appointed to handle arrangements.

LPGA Membership Express Breaks Goal

The "400 special," LPGA's membership express, steamed into the station with a membership total of 653, 253 more than the original goal and 163% of the original quota. The revenue totaled \$30,725—123% of the original goal.

Top honors in the membership drive went to Ace Ferrell of Atchison, Kan., and his crew of division No. 5 (Kansas, Missouri, Nebraska and Oklahoma). Division No. 5 hit 302% of the numerical and 262% of the revenue targets.

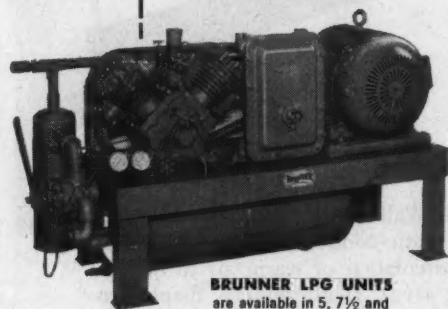
Second honors in both departments went to the southeastern division, while third place was shared by midwestern district No. 6, winners on the numerical score board, and south central district No. 7, third on the revenue honor list.

The "400 special" has been delayed in New England, hard hit this winter and spring with heavy snow. The New England crew doesn't intend to stop loading until they have more than reached their quota.

You can pay for this



LP GAS TRANSFER UNIT



— with the
GALLONAGE SAVINGS
you'll get
every time you
empty a tank car!

BRUNNER LPG UNITS
are available in 5, 7½ and
10 H.P. models — easy to
install, easy to service.

Yes, the savings in time and gallons (up to 540 gallons more from a 10,000 gallon tank car) soon pay for your Brunner LPG Transfer Unit—keep on paying big dividends every time you use it! The reason, of course, is that the Brunner Unit not only quickly transfers all liquid to your storage tank—but also removes and liquefies gas vapors remaining in the tank car. With a simple turn of a valve, residual vapors in the tank car are removed down to recommended pressures of 15 to 20 lbs. per square inch. See the Brunner LPG Unit—see why no liquid pump can give you such savings!



WRITE FOR FREE BOOKLET that shows how to set up a highly efficient "tank car to storage" transfer system—describes the many safety and long life features of Brunner LPG Units.

BRUNNER MANUFACTURING COMPANY
Dept. E-64, UTICA, N. Y., U.S.A.
The Brunner Co., Gainesville, Ga.
In Canada: Brunner Corp. (Canada) Ltd., Toronto, Ont.

BRUNNER

... the name to look for on
**INDUSTRIAL
GAS COMPRESSORS**

*From California
to Florida...*

Dealers are learning that you can't beat American *"Better-Bilt"* LP Trucks and Transports!

Read what this Satisfied User
Says about AMERICAN
"Better-Bilt" Delivery Trucks

"I have seen a lot of tank trucks,
but I have yet to see one as well
constructed as yours. The extra
middle saddle, the heavy skirting
and rear domes, and the piping
design are certainly superior to
most of the tank units on the mar-
ket, regardless of price. Consider-
ing that we bought on a price basis,
not aware of these differences, we
consider ourselves very fortunate
that you had the best price."

C. E. Bosserman
Metegas Service
Maitland, Florida



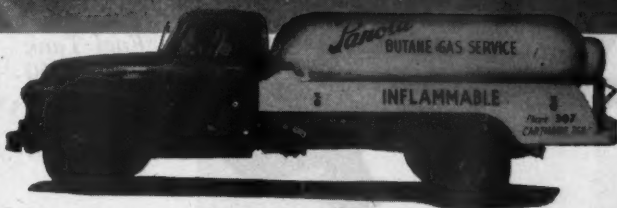
Next time you're in Dallas be
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American "Better-Bilt" tanks are made of
new high-tensile steel and are EXTRA LIGHT
WEIGHT. This means bigger pay-loads. We
use high-flow style piping, which greatly
increases the delivery of LP gas. The conven-
ience and safety of the driver is of vital concern
to us. Main shut-off valves are controlled from
the driver-side of the truck. Two roomy cabinets
are streamlined into rear of truck. Every tank
is custom-balanced to the truck it's built for.
These are just a few of the many advantages
available to you at no extra cost in an Amer-
ican "Better-Bilt" delivery unit.

Write for our low
prices on complete
assemblies — from
1250 to 2000
water-gallon size,
set on your truck,
piped — ready for
service.

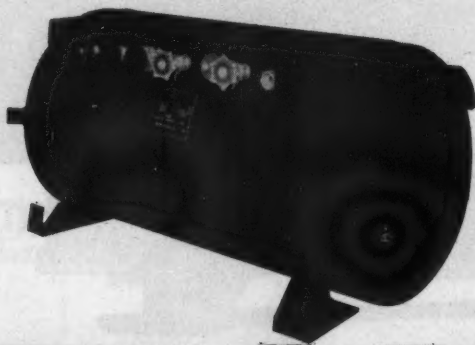
Also available at
new lower costs:
new 1954 Fords,
GMC's, Chevrolets,
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national trucks for
delivery-tank-
mounting. Prices
quoted on request.

Lt. Governor Addresses Northwest LPGA Meet

Washington's Lt. Governor Emmett Anderson addressed the first luncheon meeting of the northwest district LPGA convention, held recently at the Davenport hotel in Spokane. The subject of the governor's speech was the many opportunities for the L. P. gas industry in the state of Washington.



Glen F. Fansler, convention host, opens the seventh annual LPGA northwest district convention on a humorous note as he sets the stage for the largest meeting yet held in the northwest district. Members attended from Canada, Montana, Idaho, Washington, Oregon, Utah and California. Sixteen new members joined during the meet.



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Tractor Tanks are
furnished in color.



Dealers report that their customers are choosing Western custom motor fuel tanks furnished in appropriate tractor colors. They prefer the added convenience and smart appearance along with the other special features of Western Tanks. The tank shown above, has a sleeve for the steering rod that fits perfectly, and tank mounting brackets which provide for simple, quick installation.

Write for complete price list, catalog and further information today.

Dealer Price of tank
for John Deere Model 60 \$74.03
Custom tanks in color also available for
John Deere Models A, B, D, G, 50, 60, & 70.

Regional distributorships still available in some sections of the country.



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The 300 delegates attending the convention also heard W. R. Sidenfaden, president of Suburban Gas Service in Upland, Calif., point out the steps necessary at the management level if the continued growth of the L. P. gas industry is to be assured.

Howard D. White, executive vice president of LPGA, gave a report from the national association. Other speakers and their subjects included Dr. Oscar R. Goodman from the state college of Washington speaking on a flexible approach to business problems; J. D. Hartup from Standard Oil Co. of Calif. giving the credit picture today; Walter J. Kraus talking about sales promotion and advertising; Spencer H. Nitchie from Phoenix, Ariz., speaking about building a summer load; Mel A. Ennis, west coast secretary of the LPGA, speaking of yesterday, today and tomorrow in the L. P. gas field; and Robert R. Herring telling how to live with natural gas.

Entertainment included a cocktail party, banquet and floor show.

Chairman for the convention was Glen F. Fansler, LPGA state director from Washington and head of the Western Gas & Power Co. of Spokane.

AGA Expands Public Relations Activities

American Gas Association has launched a program of new public relations activities to assist gas companies locally and to improve the atmosphere for the gas industry nationally. Supervision will be exercised by the AGA public information committee, with Willis M. Kimball, director of information, The Columbia Gas System Inc., as chairman.

Three new major public relations activities and a number of lesser activities are being inaugurated by AGA this year. First of these is a series of regional public relations workshops to stimulate greater local utility action. AGA also is making arrangements for the appearance of public relations speakers at national

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AUTOMATIC GAS WATER HEATER

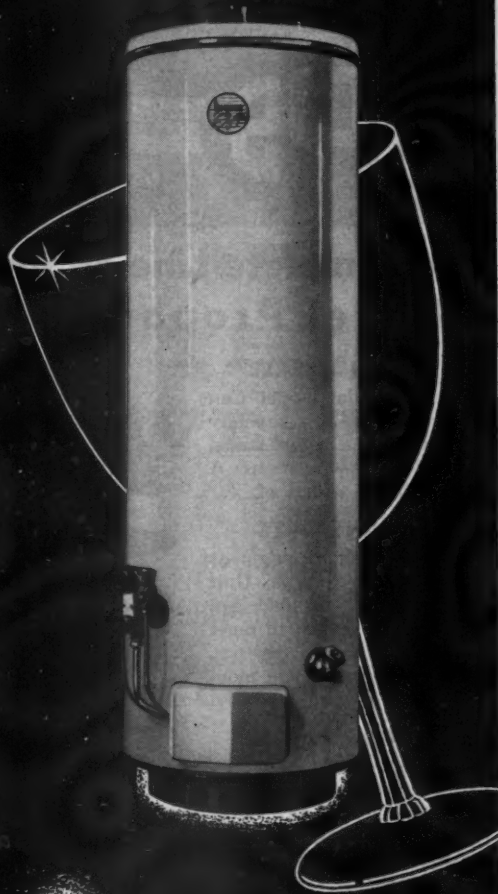
The big news in gas is *Crystalglas* . . . the Bryant Water Heater that is ready now to break sales and profit records for you!

A Better Water Heater . . . 33% greater strength against seam leakage; new "hi-therm" formula glass lining; two-piece tank; the most positive immersion thermostat on the market; 100% safety shutoff as standard equipment . . . all these and many more features make *Crystalglas* the water heater most customers want and will buy.

Better Profit Opportunity . . . *Crystalglas* is sold through *dealers*, with complete warehouse inventory and on-the-spot service supplied by your nearby Bryant Distributor. It is competitively priced for volume sales—with full markup provision to assure you a maximum profit on each premium sale.

A Full-Fledged Sales Help Program . . . Compelling *Crystalglas* national advertising is already on the street, pre-selling for you. Your Bryant Distributor has available an unrivaled array of local advertising, point-of-sale, sales-training and follow-up material for your use on a co-operative basis.

A Ground-Floor Chance for You . . . The Bryant name, the Bryant sales and service policy, the unmatched features of Bryant's *Crystalglas* are just what you need to set a new high-water mark in hot-water profits this year. Get in touch with your Bryant Distributor now!



Use this traffic-stopping
"action" display to bring
Crystalglas prospects to you.

bryant

HEATING • AIR CONDITIONING • WATER HEATING

and regional gas industry conferences and conventions.

Special AGA public relations bulletins to member companies will provide an exchange of material, successful ideas and techniques. AGA also plans to expand its current flow of gas industry information to local companies, including publicity releases, facts, photographs and background materials. These will assist local companies in developing their relations with the public, customers, investors, government and labor.

Tentatively planned for 1954 are one or more "how-to-do-it" booklets

on the applications of public relations techniques to specific gas industry problems.

Two current AGA activities are playing an important role in assisting gas utilities. The school education program will be continued throughout 1954, and another major tool for developing better public relations is the new customer training program, "Principles of Customer Relations."

Specific steps are now being taken to coordinate present and new AGA projects with the public relations programs of Gas Appliance Manufacturers Association, Independent

Natural Gas Association of America, Liquefied Petroleum Gas Association, and regional gas association. Agreement upon over-all policies and objectives will permit coordinated attacks by all segments of the industry on their major public relations problems.

Michigan LPGA Will Meet July 8-10

The committee for the annual summer convention of the Michigan Liquefied Petroleum Gas Association has announced that the July 8-10 meeting will take place at the Charlevoix Beach hotel at Charlevoix. The hotel is located on Lake Michigan and has its own private beach.

Entertainment for the convention will include a ride on the chairlift up Boyne mountain and a golf tournament. Boating, swimming, riding and shuffleboard are also on the entertainment agenda. Members are asked to bring their families.

Missouri LPGA To Meet June 14-16

Plans are nearing completion for the annual Missouri LPGA convention and trade show to be held June 14-16 at the President hotel in Kansas City.

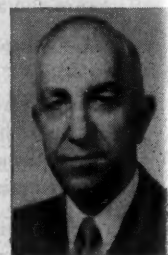
Plans call for 43 exhibits for the 1954 show, which is some 12 more than were at the 1953 convention held in St. Louis. Some \$600 worth of prizes will be given away on the exhibit floor through a novel registration plan. To be eligible for any of the prizes, the member will have to visit each and every exhibition booth.

Sales, safety and operations will be emphasized in the speaking program for the convention.

NGAA Meets, Confers Hanlon Award

The Natural Gasoline Association of America, which met recently at the Baker hotel in Dallas, conferred its highest honor, the Hanlon award, on George P. Bunn of Phillips Petroleum Co.

T. R. Goebel of Houston, a former association president, conferred the award at ceremonies that took place at the Baker hotel as the petroleum industry group moved into its thirty-third annual convention. Mr. Bunn was cited for outstanding service to the industry, versatility, and long-



George P. Bunn



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A Complete Line of Single and Twin Barrel Propane Truck Tanks

TWIN BARREL

Very popular model. Can furnish in any capacity you desire. Custom made, to your specifications. A unit to be proud of.



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Can furnish in single or twin barrel type. Unit constructed so load can easily be shifted to meet different type tractors. Payload makes you money, this is our specialty.



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For one fuel operation, the 1200 single meets all requirements, can furnish any capacity you desire. The leader in its own field.



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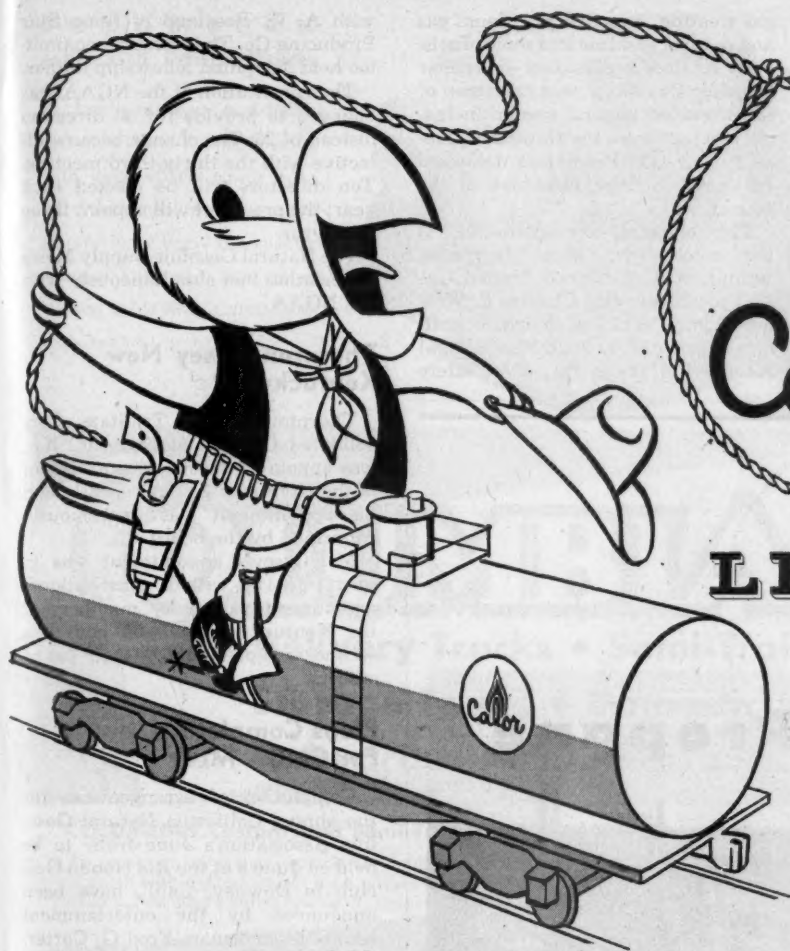
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Complete Modern Shop Facilities for Mounting and Testing All Pumping, Metering and Propane Handling Equipment.

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Makes CALOR "leader" in the west among independent marketers. Yes ... better see CALOR *now*, and you, too, will agree—it pays to deal with the *West's* leading independent marketer of LP-Gas.

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time interest in the industry's problems.

The NGAA officers, who were re-elected for a second term, are: president: Frank M. Perry, Cities Service Oil Co.; vice-president: Robert Boykin, Fullerton Oil Co.; W. F. Matheny, Sid Richardson Gasoline Co.; George T. Tennison, Shell Oil Co.; Albert H. Weil, United Gas Pipe Line Co.; secretary-treasurer: William F. Lowe.

Subjects discussed at the convention included development in compression, transportation, high pressure gas, well and plant corrosion,

gas treating, liquefied petroleum gas and natural gasoline and motor fuels.

W. A. Baden, president of Anchor Gasoline Co., Tulsa, was chairman of the afternoon general session including a report from the National Council for LP-Gas Promotion delivered by James E. Pew, chairman of the council.

The following committees met at the convention: plant corrosion, headed by E. C. Greco, United Gas Co.; technical, with Charles E. Webber of Sun Oil Co. as chairman; traffic, chairmaned by F. A. Shellhorn of Anchor Petroleum Co., plant safety

with A. W. Breeland of Lone Star Producing Co. The technical committee held its annual fellowship dinner.

The constitution of the NGAA was changed to provide for 33 directors instead of 26. The change became effective with the thirty-third meeting. Ten directors will be elected each year; the president will appoint three each year.

The Natural Gasoline Supply Men's Association met simultaneously with the NGAA.

Thornton Casey New Kentucky VP

Thornton Casey, Tri-State Consolidated Gas Co. of Paducah, Ky., was appointed second vice president of the Kentucky LPGA recently and his appointment was unanimously confirmed by the board.

Mr. Casey's appointment was in conformity with a constitutional amendment passed by members of the Kentucky association adding a second vice president to their list of officers.

Plans Complete For CNGA Meet

Completion of arrangements for the annual California Natural Gasoline Association's June frolic to be held on June 5 at the Rio Hondo Golf club in Downey, Calif., have been announced by the entertainment committee chairman, Fred G. Carter.

Eight hundred people are expected to attend the day of sports, good fellowship and entertainment. Among the plans for the day are golf, volley ball, baseball and a barbecued beef dinner and show.

Members Profit From Illinois LPGA Meet

"Beneficial" was the word applied to the Illinois LPGA convention by the 155 members who attended it recently at the St. Nicholas hotel in Springfield. Knowledge was for the taking in matters of money, methods, markets and merchandising.

Bennie Schnepfer, president of the Illinois LPGA, introduced the first speaker, Dr. Paul M. Van Arsdell, an authority on commerce and business at the University of Illinois. In his speech Dr. Van Arsdell informed the group of the financial position of American business corporations.

Advance bookkeeping and accounting methods were explained by Mr. Drallmeier of Remington Rand Inc., while William H. Kelley gave an excellent presentation on the credit and borrowing slant for small businesses.

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Butane Propane



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When you buy LP-Gas from Carter, you have the assurance of high quality and dependable service. Years of experience in producing and marketing LPG make Carter an unexcelled supplier.

THE CARTER OIL COMPANY
TULSA, OKLAHOMA

COLUMBIAN Full-Skirted Delivery Trucks

Backed by 60 years' tank-building experience. Pump mounted with direct-driven power take-off. Engineered to your state regulations. Built for speedy transfer. Pictured is 1600-gallon custom made unit. Curbside or rear-mounted controls.



COLUMBIAN L-P

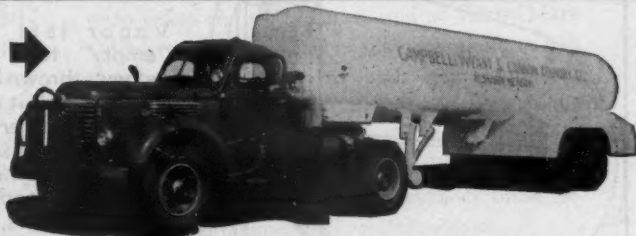
Delivery Trucks • Semi-Trailers

Storage Tanks • Domestic Systems

Anhydrous Ammonia Tanks

COLUMBIAN Custom Built Semi-Trailer

To your order, single barrel or double. Greatest strength with lightest weight for a payload that PAYS! 4725-gallon single barrel transport, right.



COLUMBIAN Bulk Storage

Long service life assures you maximum economy. Sizes to meet every need. ASME code construction throughout. Single or multiple installations. At left, dealer tanks up to 6000 gallons capacity.

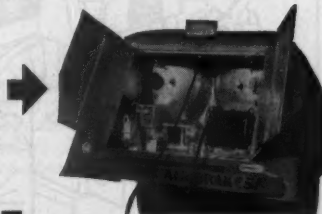


Anhydrous Ammonia

Anhydrous Ammonia tanks up to 6000 water gallons. For application, transportation and storage. Fittings protected by heavy shield. An ever-growing, profitable side line for you!

COLUMBIAN Twin-Barrel

For delivery or transport, note the functional location of controls, hose reel, metering equipment. Designed to cut delivery time, increase safety...no waste motions. All sizes to meet your specifications.



COLUMBIAN Domestic Systems

ASME construction, in all sizes. Quality materials and workmanship throughout. Fittings conveniently grouped and protected by sturdy weather cap.



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The group was advised of tax problems and current tax developments as they apply to the small business man by J. C. Dockeray, an expert on money and tax information. John Beaumont talked on the educational facilities for managers and operators.

Professor L. L. Walters from the University of Indiana talked of the value of good personnel and the advantages of being employed by small businesses.


Idaho LPGA Meets In Boise

Boise, Idaho, was the scene of the recent annual meeting of the Idaho

Liquefied Petroleum Gas Association. Thirty-five people attended the meeting at the Owyhee hotel.

Business of the day included the election of new officers: E. L. Rehkopf, Liquid Gas Appliance Co. of Twin Falls, was elected president; L. V. Rothrock, Liquefied Gas Corp. of Boise, vice president; and Delmore Petersen, Gooding Gas & Appliance Co., Gooding, secretary-treasurer.

In addition to a business meeting and the election of new officers, talks were presented on the proper venting of gas appliances and application of tax on L. P. gas as a motor fuel.



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PICKING
IT UP!

Vapor left in an "empty" tank car is money thrown away. You can pick it up fast, with a Corken compressor. You'll save the full cost of the compressor, unloading 35 to 40 tank cars, on the average.

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CALENDAR

All associations are invited to send in dates of their forthcoming meetings for this calendar.

1954

JUNE

- June 5—California Natural Gasoline Association. Annual meeting, Rio Hondo golf club, Downey.
- June 4-6—LPGA Mountain States District. Convention and trade show, Stanley Hotel, Estes Park, Colo.
- June 6-8—Arkansas Butane Dealers Assn. Annual convention, Hotel LaFayette, Little Rock.
- June 7-9—Institute of Cooking and Heating Appliance Manufacturers. Annual convention, Netherland Plaza hotel, Cincinnati, Ohio.
- June 14-16—Missouri LPGA. Annual convention and trade show, President Hotel, Kansas City.
- June 20-24—Canadian Gas Association. Annual meeting, Banff Springs hotel, Banff, Alberta.
- June 22-23—North Dakota LPGA. Annual convention, Gardner Hotel, Fargo.
- June 23-25—Texas Butane Dealers Association. Annual convention and Southwest Exposition, Baker Hotel, Dallas.
- June 25-26—Minnesota LPGA. Annual convention, Birchmont Lodge, Bemidji.
- June 28-29—Wyoming LPGA meeting, Townsend Hotel, Casper.

JULY

- July 6-9—American Home Economics Association. Convention, San Francisco, Calif.
- July 8-10—Michigan LPGA. Summer meeting, Charlevoix Beach hotel, Charlevoix.
- July 25-27—Kentucky LPGA. Annual convention, Kentucky Hotel, Louisville.

AUGUST

- August 8-10—Alabama LPGA. Annual convention, Battle House, Mobile.

SEPTEMBER

- Sept. 15-17—National Petroleum Association. Annual meeting, Traymore hotel, Atlantic City, N. J.
- Sept. 19-21—New Mexico LPGA. Convention, La Fonda Hotel, Santa Fe.
- Sept. 27-28—Symposium on L. P. gas testing methods. Hotel Statler, St. Louis, Mo.
- Sept. 27-28—Virginia LPGA. Annual convention, Hotel Roanoke, Roanoke.

OCTOBER

- Oct. 11-13—AGA. Convention, Atlantic City, N. J.
- Oct. 17-19—Ohio LPGA. Annual convention, Neil House, Columbus.
- Oct. 18-22—National Safety Congress. Chicago.

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TRADE-MARK

LP-Gas CYLINDERS

are built to
make money
for you . . .



*Available in popular 20-lb., 40-lb., 60-lb.
and 100-lb. sizes, with or without valves.
Other styles can be made to order.*

PREST-O-LITE Cylinders combine unsurpassed quality, low cost, and attractive appearance to satisfy the exact needs of LP-Gas users everywhere. Cylinders are rugged and sturdy for long, dependable service life. They're lightweight for easier handling. Factory testing is in excess of requirements to assure maxi-

mum safety and performance. And all PREST-O-LITE Cylinders are deep-drawn to extremely uniform wall thickness so you can be sure of exacting size, weight and capacity. Superior anti-rust coating protects the cylinder bottom and interior of footing from corrosion—a valuable safeguard at no extra cost! Durable aluminum enamel protects the cylinder finish indefinitely and reduces your repainting costs.

Your wisest, most economical investment in LP-Gas cylinders is in the PREST-O-LITE Brand. Write or 'phone your nearest LINDE Office today for complete information.

Data is deeply cut in large characters into an extra thick, wide flange on 60-lb. and 100-lb. cylinders (into valve protecting head ring of 20-lb. and 40-lb. sizes). Lettering remains easy to read throughout life of the cylinder.



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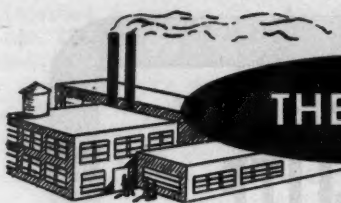
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Union Carbide and Carbon Corporation.*



SURFACE COMBUSTION CORP.—Richard E. Ireland, a 17-year employe with the Janitrol division of Surface Combustion, has been appointed sales promotion supervisor, according to Harry C. Gurney, Janitrol sales manager. In his new post he will aid in national advertising and promotional activity on the Janitrol line of home and commercial heating and cooling equipment and gas-fired heaters.

Other Janitrol appointments: Ellsworth N. Hilliard as advertising and sales promotion manager; Lawrence



THE TRADE



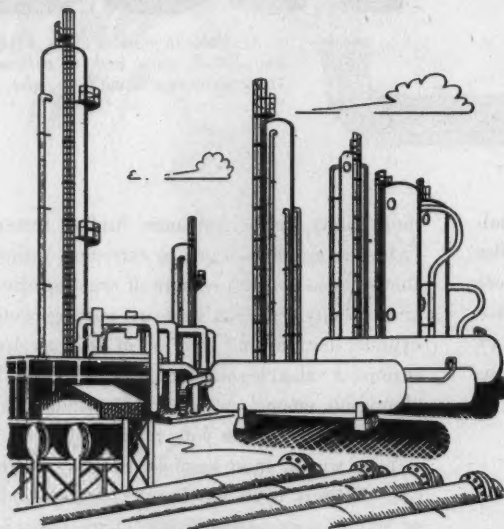
J. Monahan as assistant sales manager for the eastern division; Walter D. Shoemaker as district manager for the Pittsburgh office; Charles C.

Owen as assistant sales manager for the western division; Fred Hamer as manager of the Indianapolis, Dayton and Louisville branches.

William A. Veasey has been appointed sales representative in the New York office of Surface Com-

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LIQUEFIED PETROLEUM GAS



... in L. P. gas also Cities Service means Good Service

- A DEPENDABLE SOURCE
- UNIFORM PRODUCTS
- A CAPABLE SUPPLIER
- TWENTY-FIVE YEARS EXPERIENCE

CITIES SERVICE OIL CO.

DELAWARE

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OTHER SALES OFFICES

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E. N. Hilliard



R. E. Ireland

bustion. He will handle sales activity for the complete Janitrol line of heating and air conditioning equipment for residential, commercial and industrial locations in the Brooklyn, Queens and Richmond areas. He will operate under the direction of Kenyon G. Hull, New York district manager.

LUN-DOW CO. — Chris E. Gay has been appointed manager of the liquefied petroleum gas and anhydrous ammonia department of Lun-Dow Co., new petroleum chemical marketing firm organized by Harry M. Lundquist and Martin L. Dowell. The firm has offices in the Wright Bldg., Tulsa.

Finished gasoline, natural gasoline, lubricating oils, L. P. gases, anhydrous ammonia, toluenes and benzenes will be marketed by the company.

Mr. Dowell and Mr. Gay were formerly with Universal Petroleum Co. Mr. Lundquist is a firm member of Rogers and Lundquist Pipe and Supply Co.

WARREN PETROLEUM CO.—The liquefied petroleum gas division has announced the appointment of Wayne B. Morgan to the newly-created position of assistant sales manager in charge of L. P. gas sales to refineries.

Mr. Morgan joined Warren's L. P. gas engineering department in August, 1946, following his discharge from the U. S. Navy. He later transferred to the L. P. gas purchases de-

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Butane Gas Insurance

*Have your local
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- Complete and comprehensive coverage . . . for
- Adequate limits of liability . . . at
- Normal rates . . . with
- Special safety engineering and prompt claim service.



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T. E. GAMMAGE SR., President

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A Strong, Successful Capital Stock Company . . . the pioneer in butane gas insurance protection in Texas and twelve other states.

partment for several months before being assigned to duty in the Chicago office of Warren's Dri-Gas Corp.

When Warren began developing its L. P. gas underground storage program, Mr. Morgan was re-assigned to the engineering department to supervise that program. For the past seven months he has represented Warren in Cuba during the construction of an LPG marine terminal in that country.

ANCHOR PETROLEUM CO.—Frank Brigham is now representing Anchor Petroleum Co. in northern California. He will be active in the sale of Anchor LPG products.

When Mr. Brigham joined Anchor on March 15, he had more than eight years of experience in the LPG field. For the three and one-half years he was associated with Cities Fuel Corp., Fresno. Prior to that, he spent four years with Pacific Tank Co., Los Angeles. He will continue to headquarter in Fresno.

PRESSED STEEL TANK—Norman A. Evans, vice president in charge of sales for Pressed Steel Tank, Milwaukee manufacturer of Hackney L. P. gas cylinders, fuel tanks and systems, has announced two appointments among the company's New York sales staff.

Frank Gaskill has been named district manager of the New England area, including parts of New York state, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire and Maine. At the same time, Richard Knapp was named middle



Frank Gaskill



Richard Knapp

Atlantic states representative, covering eastern Pennsylvania and the states of New Jersey, Maryland, Delaware and Virginia.

Mr. Gaskill and Mr. Knapp have both been with the sales department of Pressed Steel Tank since 1950, and both have their headquarters at the New York City sales office, 52 Vanderbilt Ave.

SCAIFE CO.—Two appointments to the sales department were announced by E. S. Sedlachek, sales manager.

James P. Parker has been named manager of LPG tank sales. Mr. Parker was formerly manager of rural sales, A. O. Smith Corp. He will operate out of Scaife's Chicago office covering the states of Illinois, Wisconsin, and Michigan, and portions of Indiana and Ohio.

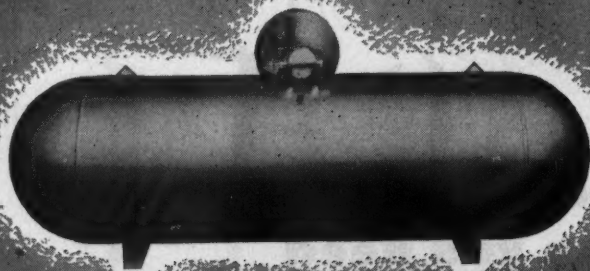
G. Howard Yandell has been appointed salesman of aboveground tanks and LPG cylinders. Mr. Yandell's territory will include Kentucky and parts of Ohio and Indiana. He will report to Mr. Parker.

CHIKSAN CO.—H. J. Schlarb has been promoted to the newly created position of special representative in the sales department of Chiksan Co. and Chiksan Export Co., states G. R. Winder, vice president and general sales manager.

In his new capacity, Mr. Schlarb will maintain close contact with key personnel of customers and prospects, and with visiting personnel of foreign operations. In addition, he will handle special assignments and projects, particularly the company's ball-bearing swivel joint business.

Robert T. Jones has been appointed western regional sales manager and Bev P. Ragsdale has been promoted to senior field engineer of Chiksan Co., Brea, Calif., manufacturers of ball-bearing and swivel joints.

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FLINT LPG TANKS

FLINT LPG TANKS are sturdily built for longer use yet are light in weight. FLINT TANKS are easy to handle, easy to install. Weather proof heads protect fittings. Built in strict accordance with ASME code for 200/250# working pressure and meet all state requirements. Seven sizes from 120 to 1000 gallons. Also: 6000, 18,000 and 30,000 gallons.

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SEE THEM AT YOUR BONDED DEALER

FLINT STEEL CORPORATION

MEMPHIS, TENNESSEE

TULSA, OKLAHOMA

TESTS PROVE!

"SERVEL refrigerator is a better load builder than the Gas Range!" ...says C. L. BENN

2 SERVEL ADVANTAGES PROVED!

1 Tests indicated monthly consumption by gas range of 1.233 H.C.F. per range ... and 1.38 H.C.F. for the Servel Refrigerator. Servel maintains and boosts your gas load better than the average gas range!

2 The independent Pittsburgh tests proved the Servel gas refrigerator is more economical in the consumer's home than any other type of refrigerator. Eight-day tests were conducted under closely controlled conditions, using an electric and gas refrigerator of comparable capacity. Fuel costs per month showed electricity at \$1.56 and gas at 90¢. This Consumer-Saving is a powerful advantage in selling the appliance that does most for you!

Gas Refrigerator superiority proved in independent tests conducted by C. L. Benn, Chief Utilization Engineer of Equitable Gas Company, Pittsburgh, Pa.



THESE FEATURES SELL SERVEL!

- Ice "Cubes" Automatically ... no messy ice trays!
- 10-year warranty ... with no motor to wear out!
- 3 appliances in 1 ... refrigerator, freezer, ice-maker!
- Huge separate freezer ... up to 80 lbs. of frozen foods!
- Automatic Defrost ... completely carefree!
- Door shelves ... and adjustable interior shelves!

A complete selection of fully automatic gas water heaters in a range of sizes to fit every need.



TODAY ... CASH-IN ON YOUR SERVEL ADVERTISING-MERCHANDISING PROGRAM! CALL IN YOUR SERVEL DISTRIBUTOR NOW!

Servel

The name to watch for great advances in
REFRIGERATION and AIR CONDITIONING

Servel Inc., Dept. BP6, Evansville 20, Ind. • In Canada, Servel (Canada) Ltd., 548 King St. W., Toronto, Ont.

Mr. Jones was formerly sales engineer in the western region. He joined Chiksan in 1945 in the engineering department.

In his new capacity, Mr. Jones will supervise the activities of Chiksan's sales force in the western portion of the United States and work closely with the company's representatives in Oregon, Washington, Utah and Arizona.

Bev Ragsdale has been with Chiksan for nine years and has worked in production, engineering and sales in the Brea plant and in the western and midwestern areas. He will handle special assignments in the eastern region.

THE J. B. BEAIRD CO. INC.—Promotion of three members of the sales department has been announced by J. L. Tullis, general manager of sales.

Rex Wheeler, formerly L. P. gas and anhydrous ammonia systems salesman in Kansas and Nebraska, has been promoted to manager of the pressure bulk storage sales division, and R. W. Rademacher, sales engineer in that department, has been named assistant manager.

Roy Hathorn, machine products sales division representative, has been appointed manager of the division.

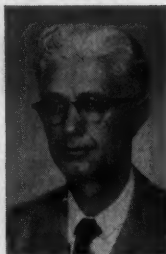
Mr. Wheeler was vice president of

the Humburg Co. Inc., LaCrosse, Kan., large L. P. gas dealership, before joining Beaird and had served as a president of the Kansas State LP-Gas Dealers Association.

Mr. Rademacher has been in the L. P. gas merchandising field since 1948. Before joining Beaird he was a sales engineer with United Petroleum Gas Co. and prior to that was a salesman for Skelly Oil Co.



R. W. Rademacher



Rex Wheeler

Three officials of this Shreveport, La., firm have been promoted, according to an announcement by J. Pat Beaird, president. Mr. Beaird was renamed president and general manager.

Charles T. Beaird was elevated to vice president; John L. Tullis to vice president and general manager of sales, and Melvin F. Johnson to secretary.

Other officers re-elected were J.

G. O'Brien, vice president and treasurer; C. N. Wibker and L. J. Sarosdy, vice presidents; and J. R. Querbes Jr., assistant secretary.

Charles T. Beaird is also president and general manager of The J. B. Beaird Co. Inc., of California, wholly owned subsidiary located in Stockton. The Stockton plant manufactures L. P. gas and anhydrous ammonia systems which are marketed in 11 western states.

INTERNATIONAL HARVESTER CO.—T. E. Aughinbaugh has been promoted to assistant manager of sales, southern region, for the motor truck division, states R. M. Buzard, manager of sales.

Mr. Aughinbaugh formerly was assistant district sales manager at Indianapolis. He will make his headquarters at Chicago.

Other changes in International truck district management announced by Mr. Buzard include: J. E. Davis, formerly assistant district manager, Detroit, has been transferred to Indianapolis in the same capacity; J. W. Briggs, formerly branch manager, Salt Lake City, has been promoted to assistant manager of the Salt Lake City district; D. M. Leonard, formerly assistant district manager, Springfield, Ill., has been transferred to Detroit in the same ca-

MERCHANDISING AND SALES EXECUTIVES Liquified Petroleum Industry

Gentlemen:

We are seeking an executive who is now earning in excess of \$75,000 annually.

Must at present have active international associations.

Should be broadly associated with gaseous fuels and have a complete understanding of all phases of the Liquified Petroleum Gas industry.

Replies will be kept in the strictest confidence.



DEL-AIR MANUFACTURED GAS CO.
470 SOUTH BEVERLY DRIVE • BEVERLY HILLS, CALIFORNIA

Key to more sales.... bigger profits!

THE NEW

DETROIT JEWEL

"36"

Sensational Addition to the
"Mrs. America Line"



Now! DETROIT JEWEL Offers You...

The new "36"—A top line range with top-quality promotion features... **PLUS**, a full line of Compact models, popular 31" Futura ranges, fast-selling Deluxe Series and the famous Imperial line which now includes models finished in exciting kitchen colors:

- **Fresh Highland Green**
- **Mellow Sahara Gold**

Illustrated is new Detroit Jewel "36" No. 437-1—available without lamp and minute minder.

Here's the hottest selling range in history. Look at a few of the features:

- Extra large oven (biggest domestic roaster fits it)
- Full-size backguard
- Fiberglass insulation
- Titanium porcelain
- and many more...

Get in the profit parade! Order the new Detroit Jewel "36"! Write for free Detroit Jewel range brochure today!

DETROIT JEWEL MEANS BUSINESS!

Built with
Jeweler-like
Precision
Since 1864



Manufacturers of famous Detroit Jewel Dual-Action Incinerator—Garland Commercial Cooking Equipment

DETROIT JEWEL

A Product of the Detroit-Michigan Stove Company, Detroit 31, Michigan

capacity; W. L. Topf, formerly assistant district manager, Davenport, Iowa, has been transferred to Spokane, Wash., in the same capacity; M. S. Whittington, formerly assistant district manager, Spokane, has been transferred to Davenport in the same capacity.

CITIES SERVICE OIL CO.—Appointment of C. A. Willis as director of sales for Cities Service Oil Co. and B. J. Farwig as general sales manager has been announced from Chicago marketing headquarters by E. L.

Stauffacher, vice president and manager of the marketing division. A. N. Haenggi becomes assistant general sales manager.

Mr. Willis will formulate company sales policies, conduct research and studies of products, earnings and competitive trends to effectuate expansion plans. He has been with Cities Service since 1922.

Mr. Farwig assisted by Mr. Haenggi, will administer all sales policies, supervise sales, advertising, promotion, campaigns, personnel and all other matters in the administrative area. He came to Cities Service in

1925 as assistant general traffic manager.

Mr. Haenggi has been with Cities Service in the marketing division since 1930 and since 1952 has been assistant manager of the St. Paul marketing region.

WORTHINGTON CORP. — M. M. Lawler, vice president of air conditioning and refrigeration, recently announced the appointment of Donald H. McCuaig as manager of application engineering for the entire Worthington air conditioning and refrigeration division.



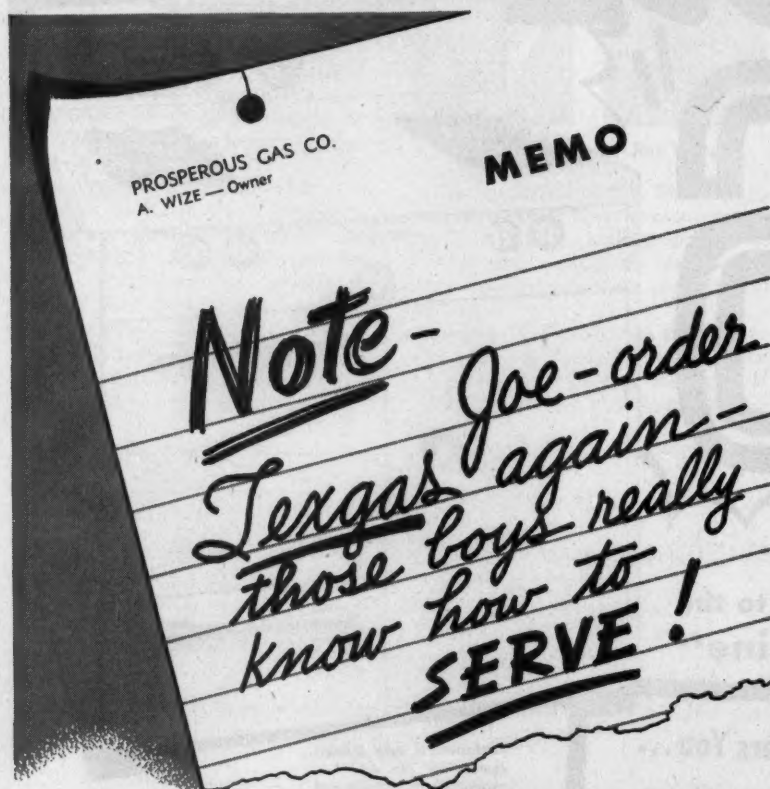
D. H. McCuaig

Mr. McCuaig has acquired wide experience in the engineering field since his graduation from the University of Alabama. Mr. McCuaig served as an engineer with the Alabama Power Co. and was for eight years a member of the University of Alabama faculty. He served as engineer with the Frick Co. Inc., Waynesboro, Pa., and during the war years, served as a marine engineer with the U. S. Maritime Commission.

Mr. McCuaig joined Worthington in 1944 as application engineer of the air conditioning and refrigeration division, Holyoke, moving up to position of manager, central station equipment section, air conditioning and refrigeration, in 1952, which post he held until his present appointment.

RUUD MANUFACTURING CO.—H. W. Milner has been appointed to the newly-created position of executive sales assistant, according to a recent announcement by A. B. Cameron, president of Ruud Manufacturing Co. Mr. Milner's duties will be concerned primarily with establishing new channels of distribution for existing Ruud products, and the investigation of potential markets for products now under development. He will headquarter at Kalamazoo, Mich., where Ruud general offices will be located upon completion of a new office building now under construction.

Mr. Milner is well known in the gas appliance and equipment field, having relinquished the position of manager of Affiliated Appliances, a division of Affiliated Gas Equipment Inc., in order to enter the Ruud organization. Prior to joining Affiliated Gas, Mr. Milner served as a sales manager at Stewart-Warner Corp.



Every day more distributors and dealers specify "Texgas" PROPANE'S and BUTANE'S. They know—

- LP-Gas is *not* a sideline with Texas Natural — and
- They can rely on Texas Natural's "on-time" delivery.

Whatever your needs, PROPANE or BUTANE—Xylene's to Decane's—order "Texgas."



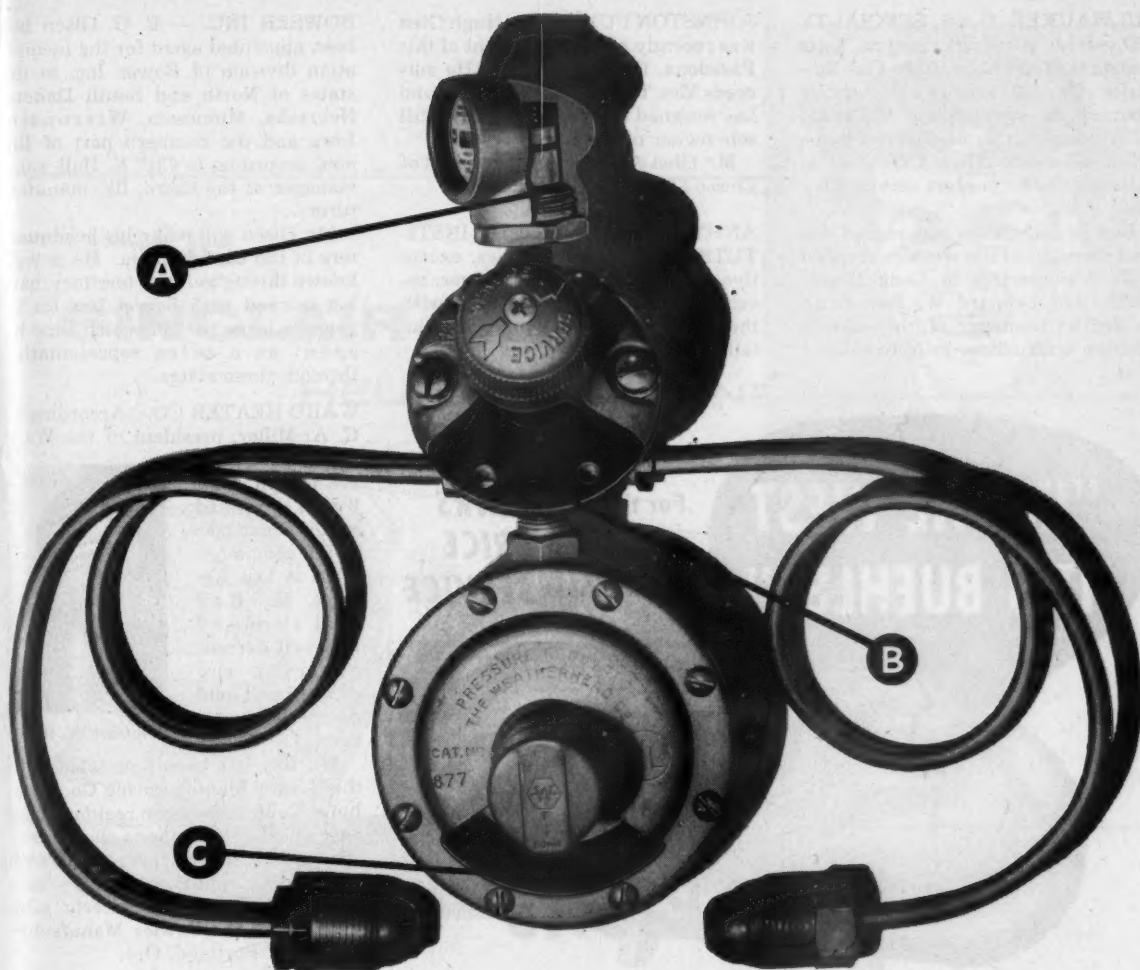
★ INVESTIGATE THE "Texgas" PROGRAM — THE INDEPENDENT MARKETING PLAN FOR INDEPENDENT DISTRIBUTORS AND DEALERS

TEXAS NATURAL GASOLINE CORP.

WIRE TU 190

WRIGHT BUILDING
TULSA, OKLAHOMA

PHONE 3-0123



Three grades of Du Pont "Fairprene"[®]—each with a different sensitivity—used in Weatherhead Automatic Manifold

The Weatherhead Automatic Manifold reduces and regulates high pressures to the extreme accuracy needed for automatic LP-Gas appliances, and gives consumers an uninterrupted supply of gas.

Du Pont "Fairprene," synthetic elastic compositions play a vital part in the operation of the Weatherhead unit at three critical points. The small diaphragm in the gauge (marked "A" above) is molded from one grade of "Fairprene." In the first-stage automatic reducing unit (B) another grade of "Fairprene" is used. Both these materials combine extreme sensitivity with ability to withstand high pressures and continual flexing, in different degrees. For the second-stage regulator (C), even greater sensitivity was of paramount importance, so Du Pont developed a *special* grade of "Fairprene" to be used primarily in gas-regulator applications. Each "Fairprene" composition was selected because it was precisely suited to do its specific job.

This is another example of how the properties of Du Pont "Fairprene" compositions can be "tailored" to fit the particular requirements of your applications. In general, the properties of "Fairprene" include toughness, flexibility and resistance to flex fatigue and abra-

sion... resistance to aging from exposure to air, gasoline, kerosene and oil or grease—even at extreme temperatures. These properties make "Fairprene" well suited for many kinds of diaphragms—and for hundreds of other industrial uses as well. Call on Du Pont's engineers to work with you in applying "Fairprene" to your specific needs.

DU PONT FAIRPRENE[®]

synthetic elastic compositions

"ENGINEERED TO DO YOUR JOB BETTER"



REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

"Fairprene" is Du Pont's registered trade-mark for its line of products made from synthetic elastomers available in the form of coated fabrics, sheet stocks without fabric insert and adhesives.

MILWAUKEE GAS SPECIALTY CO.—John A. Wolff, general sales manager of the Milwaukee Gas Specialty Co., Milwaukee, has announced the appointment of Donald R. Weidenfeller as manager of home office sales and Edward O. Abel as manager of the product service division.

Roy R. Rafenstein was named district manager of the western division with headquarters in Long Beach, Calif., and Leonard W. Bowerman as district manager of the eastern division with offices in Milwaukee.

JOHNSTON PUMP CO.—Hugh Glen was recently elected president of this Pasadena, Calif., company. He succeeds Mrs. Thomas W. Simmons, who has resigned as president, but is still sole owner of the firm.

Mr. Glen was formerly president of Emsco Derrick & Equipment Co.

ANHYDROUS AMMONIA INSTITUTE—Mrs. Mona Jennings, executive assistant and office manager, recently resigned. She had been with the institute since its founding in the fall of 1950.

BOWSER INC. — E. O. Olsen has been appointed agent for the incineration division of Bower Inc. in the states of North and South Dakota, Nebraska, Minnesota, Wisconsin, Iowa and the northern part of Illinois, according to Cliff B. Hall, sales manager of the Cairo, Ill., manufacturer.

Mr. Olsen will make his headquarters in the Chicago area. He is well known throughout this territory, having worked with Servel Inc. for 25 years, a large part of which time he spent as a sales representative through these states.

WARD HEATER CO.—According to C. A. Miller, president of the Ward Heater Co., Robert W. Ray has been appointed general manager of the company's office in Los Angeles. Mr. Ray will succeed Russell Jarrett, retiring vice president and general manager.



Robert W. Ray

Mr. Ray has been associated with the Kresky Manufacturing Co., Petaluma, Calif., as western regional manager since 1948. Prior to the Kresky connection he was associated with the heating appliance industry as a wholesaler and was formerly sales manager of the Fowler Manufacturing Co. of Portland, Ore.

BRUNNER MANUFACTURING CO. — The appointment of Joseph Raufeisen as chief engineer of the Brunner Manufacturing Co., Utica, N. Y., is made by A. G. Zumbrun Sr., Brunner president.

Mr. Raufeisen comes to Brunner directly from Wescott and Mapes, consulting engineers, located in New Haven, Conn.

WILLIAM WALLACE CO.—The appointment of Eugene C. Whitcomb as sales representative for Metalbestos gas vent pipe has been announced. Mr. Whitcomb will make his headquarters in New York, with his sales activities concentrated in the central Atlantic states area.

H. K. PORTER CO.—W. Harvey Thompson has been named assistant to the executive vice president, according to an announcement by T. M. Evans, president.

Before joining Porter, Mr. Thompson was vice president of Standard Instrument Corp. of New York and previously had been with Diebold Inc.

Mr. Thompson succeeds R. F. Al-

**"IN THE WEST
IT'S BUEHLER"**

For the best **TANKS**
For the best **PRICE**
For the best **SERVICE**



**ANHYDROUS
AMMONIA**



You'll be surprised to learn what we have for you in this new field—a complete line of Anhydrous Ammonia tanks. Ask your Buehler representative or write us for complete information.

Quality and price, the two most important factors in the purchase of an LP-Gas plant, are yours at Buehlers. Large production schedules in our shop mean lower costs—lower prices. Close proximity to our customers means lower delivered cost. Remember **"IN THE WEST IT'S BUEHLER."**



THE NAME TO
LOOK FOR ON AN
LP-GAS PLANT

BUEHLER

TANK & WELDING WORKS

3000 PACIFIC BLVD., LOS ANGELES 38, CALIFORNIA

**"THE
SINCLAIR 'BONUS'
HELPS MY BUSINESS"**



There's more than a tank-load of LP-Gas in that truck! Backing you—and your customers is a bonus of 5 Sinclair extras—**INTEGRITY, REPUTATION, RESPONSIBILITY, PERFORMANCE and GOOD SERVICE.** These important extras add up to more and more satisfied, repeat customers—and a faster-growing, more profitable business for you.

Take advantage of the Sinclair BONUS. Find out about this top quality LP-Gas with high heating values—with moisture and impurities removed. It will pay you to investigate soon.

SINCLAIR-A GREAT NAME IN OIL

SINCLAIR OIL & GAS COMPANY

Liquefied Petroleum Gas Division • Sinclair Building, Tulsa, Okla.

len, who has been elected vice president in charge of Porter's Buffalo steel division.

WORTHINGTON CORP. — According to an announcement by S. Riley Williams, vice president in charge of foreign business, B. R. McBath has been appointed general European manager.

Mr. McBath has served as assistant to the vice president in charge of manufacturing and as acting manager of the Decatur, Ala., plant. He will now headquarter in Paris.

Jack B. Bentley

Jack B. Bentley, general manager of the Titan Valve & Manufacturing Co., died recently in Cleveland. He was 32.

Mr. Bentley had been with Titan Valve since World War II, when he spent two years overseas with the cavalry.

The company, founded by Mr. Bentley's father, William T. Bentley, manufactures thermostatic control valves.

Walter R. Nay

Walter R. Nay, 51, Chicago regional manager for Mallinckrodt Chemical Works, drowned recently in Florida, where he was vacationing with his family after attending the recent American Pharmaceutical Manufacturing Association meeting.

Mr. Nay joined Mallinckrodt in 1933 as assistant manager of the Chicago office, became manager in 1935, and in 1949 was named manager of the north central states region.

J. Y. Taylor

J. Y. Taylor, nationally known manufacturer and founder of the J. Y. Taylor Co., Garland, Texas, died recently at the age of 47. He designed and perfected the Taylor "visible" liquid level gauge for use with butane-propane gases and anhydrous ammonia.

Before establishing his own manufacturing firm, Mr. Taylor spent years with the American Optical Co. For the past two years, he was not actively engaged in the business, due to ill health. The J. Y. Taylor Co. will continue under the present management.

Pierre S. du Pont

Pierre Samuel du Pont, industrialist, philanthropist and head of the du Pont family, died recently in Memorial hospital in Wilmington, Del. He was 84 years old.

Mr. du Pont acquired E. I. du Pont de Nemours & Co. at the turn of the century with his two cousins, Alfred I. and T. Coleman du Pont. They began the transformation of the company, already 100 years old, from a maker of black powder to the greatest chemical enterprise in the world.

Among its numerous products, the company makes special diaphragms for the LPG industry.

Harold J. Reekie

On April 17 Harold J. Reekie, vice president and general manager of United Cities Utilities Co., died very suddenly from a heart attack. He was 41 years old.

Mr. Reekie was employed by United Cities Utilities Co. in 1936 as district manager of the Central Wisconsin Gas Co., with headquarters in Sparta, Wisc., and in 1948 was transferred to the executive offices of United Cities in Chicago to fill the position of general manager for that company and the bottled gas affiliate, Metrogas Inc.

The *New* VIKING LP-GAS UNIT

**Just The PUMP For Fueling
TRACTORS • BUSES • TRUCKS
TAXI CABS • CARS**



MODEL GG196
10 G.P.M.
1750 R.P.M.

A complete unit ready to use. Pump, by-pass valve, relief valve, coupling, 1750 rpm motor, built-in switch and voltage changer all mounted on welded steel base.

Coupled with pump features that make it outstanding . . . mechanical seal, O-ring gasket, non-lubricated inner bearing and radial thrust bearing on pump shaft.



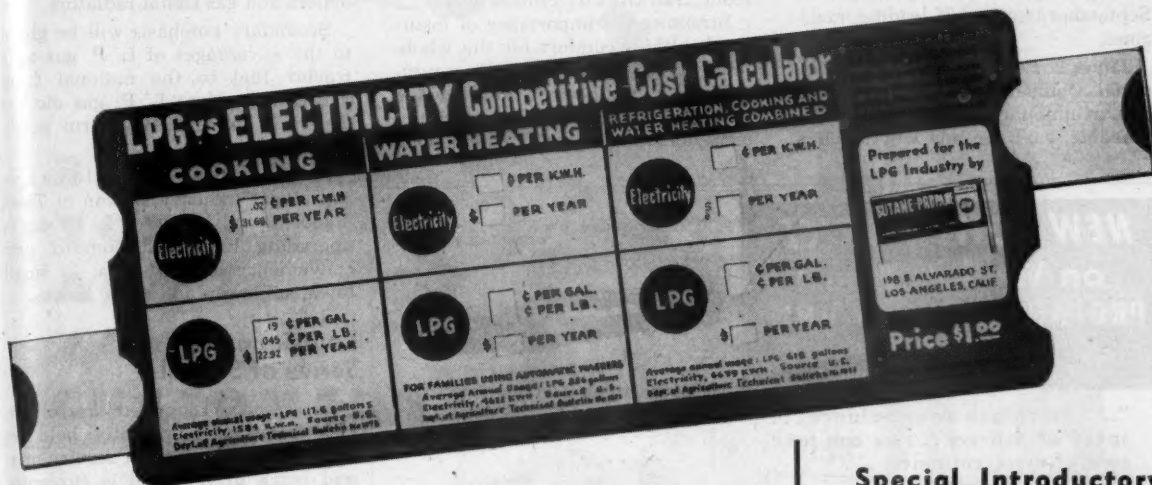
Send today for
complete information
and prices. Ask for
bulletin A2300B.

See our
Catalog
in the



VIKING PUMP COMPANY
Cedar Falls, Iowa

Sell more LPG Appliances with this New Sales Tool!



This is the new and ingenious pocket calculator recommended by Editor Carl Abell in his "How to BEAT Electrical Competition" series in BUTANE-PROPANE News.

The Competitive Cost Calculator is an indispensable aid for every LPG operator—every salesman of LPG appliances.

- Simple to use—any housewife can understand it.
- Shows in dollars per year the cost of LPG (either bottled or bulk) vs. electricity, for cooking and water heating.
- Proves to your prospect that electricity costs more than liquefied petroleum gas.
- Slides quickly to the desired comparison between LPG and electricity, at your own local rates.
- Made of durable plastic laminated board, for long life.

Using figures provided in the U. S. Dept. of Agriculture's Technical Bulletin 1073, the Competitive Cost Calculator clinches your appliance sales for you by proving the economy of L. P. gas.

Special Introductory price to readers of Butane-Propane News

\$1.00 each

Use the order coupon below

Orders of 50 to 99—80c ea.

Orders of 100 or more 70c ea.

To get the utmost use from your Competitive Cost Calculator read the "HOW TO BEAT ELECTRICAL COMPETITION" series each month in Butane-Propane News.

24 months for \$3

Saves you 25% from regular rate of \$2 a year

BUTANE-PROPANE News
 198 S. Alvarado St.
 Los Angeles 57, Calif.

Here's my remittance for \$_____ to pay for the items checked below:

_____ Competitive Cost Calculators @ \$1 each
 (In California add 3% sales tax)

New Renewal

- ☐ ☐ 24 months of BUTANE-PROPANE News for \$3
 (Saves you 25% from regular rate of \$2 a year)
- ☐ ☐ 12 months of BUTANE-PROPANE News for \$2

Name _____

Company _____

Mail Address _____

City _____ Zone _____ State _____

I have checked below only the boxes that best describe my company.

WE SELL:

- ☐ Bulk LPG ☐ LPG appliances
☐ Cylinder LPG ☐ Anhydrous Ammonia

NO. OF LPG CUSTOMERS SERVED

- (or check approximate number below):
☐ 500 or more ☐ 250-500
☐ Less than 250

FACILITIES:

- ☐ Appliance showroom
☐ Cylinder storage
☐ Bulk LPG storage tank
☐ LPG engine fuel filling station

My job is _____

Signed _____

LPG Heating, Carburetion To Be Featured in Ad Series

Two volume-building uses of liquefied petroleum gas, home heating and carburetion, will be featured in the 12th round of ads, to be released by the L. P. gas information service, Chicago, in the June, July, August or September issues of 56 leading magazines.

James E. Pew, chairman of the National Council for LP-Gas Promotion, in announcing the new insertion schedule, said the ads will reach a

Butane-Propane News

total of 122 million readers. Mr. Pew is manager of the natural gas department, Sun Oil Co., Philadelphia.

Stressing the importance of insuring healthful comfort for the whole family next winter by installing automatic L. P. gas heating now, the ads will illustrate a wide range of equipment, including console heaters, floor

furnaces, recessed wall heaters, forced warm air furnaces, hot water boilers and gas steam radiators.

Secondary emphasis will be given to the advantages of L. P. gas as a tractor fuel in the national farm magazines and to L. P. gas clothes dryers in domestic non-farm publications.

A full page "prestige" ad in a special all-gas industry section of *Time Magazine* will tell how L. P. gas is upgrading household comfort and convenience on the farm, in small town, suburban and other homes.

Louisiana Holds Series of Schools

Louisiana's Liquefied Petroleum Gas Commission recently held an educational program for service men and truck drivers and is currently following this with schools for managers and salemen.

The school for service men consisted of four courses taught during a three-hour period in one evening; the four courses for truck drivers were taught during a three-hour period on a second evening. Instructors for these courses were inspectors working for the commission and all personnel teaching underwent a teacher-training course at Louisiana State University.

Classes were held throughout Louisiana in any town or city where more than 10 service men or truck

NEW LOWER PRICES on World's Finest PROPANE DELIVERY UNITS Federal Tax Paid Easy Terms Available

"... no splash or unbalance ...
speed of delivery ... we can take
care of more customers ..."

CROSWELL-LEXINGTON GAS COMPANY
1071 Lehigh Rd.
CROSWELL & MICHIGAN

March 17, 1954

White River Distributors, Inc.
Batesville, Arkansas

Attn: Mr. Preston W. Grace

Dear Mr. Grace:

About two months ago, I had one of your 1000 gallon tank trucks mounted on my Chevrolet truck and I would like to take this opportunity to tell you how good and pleased I am of the entire setup. People actually stop and look at the truck when it comes about the clean and appearance and it's streamlined effect.

As you know, I continued to deliver while your men installed the tanks, carburetion and all of the necessary equipment and I must say that I have never seen a group of men who do such a quality, speedy and efficient job on a piece of equipment.

Now you have the job and did it to perfection and when completed, everything was thoroughly cleaned and adjusted to the finest degree.

We have been using the truck about two months and its operation is considerably above our expectations.

Two of the things we like better the most appearance are (1) absolutely no splash or unbalance when full or partially loaded and (2) the speed of delivery. We can deliver 1000 gallons in about one hour and this is our competitive edge. This means we can take care of a lot more customers in a day.

Summing up all of the features of this truck, I feel that we have the finest equipped truck in this part of the country.

Best regards,

Yours very truly,

James E. Pew

White River Distributors, Inc.

1071 Lehigh Rd.

Croswell & Michigan

Batesville, Ark.

Hardly a day ever passes without our receiving one or more letters like this from a particularly satisfied customer. We get criticisms, too, but for the most part customers happily tell us we are doing a good job helping them. Giving interested attention to every customer problem built our business. Tell us your problem and we will do our best to help you.

White River Distributors SAVE YOU MONEY!

We Sell the Steak ... Not the Sizzle

Visit Our Booth, No. 124, National LPGA Convention, Conrad Hilton Hotel, Chicago. Two Trucks on Display for Your Inspection.

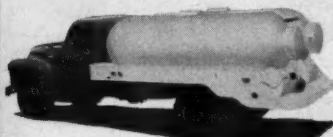
Our Truck Tanks are Built for Us by Nor-Tex to Our Rigid Specifications.

Call: Preston W. Grace
Phone 570 or 686



WHITE RIVER DISTRIBUTORS, INC.

BATESVILLE, ARKANSAS



MODEL 100

New 1954 Chevrolet 2-ton, 2-speed axle, with 1400 W.G. twin propane tank, piped complete — \$3,845.00. With 1954 International L.P.G. factory equipped — \$4,255.00.



MODEL 200



MODEL 300

PACKAGED TRUCK TANK UNITS

Prices include tank, piped complete, Viking KK-190 mechanical seal pump, 50' 3/4" filler hose, clearance lights, tank painted, ready to use.

MODEL 100

1400 W.G.	1600 W.G.	1800 W.G.
\$1755.00	\$1845.00	\$1960.00

Add \$150.00 for Model 200
Add \$250.00 for Model 300.

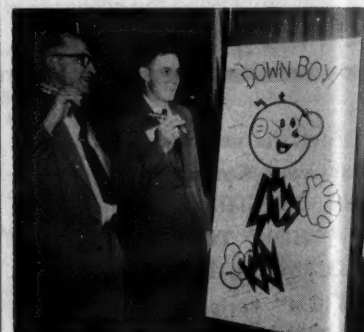
We can furnish any make or model NEW TRUCK, including Ford, Chevrolet, G.M.C., Dodge or International (factory LPG equipped), and save you up to \$600.00 on a new truck.

Any make or model pump or meter can be supplied.

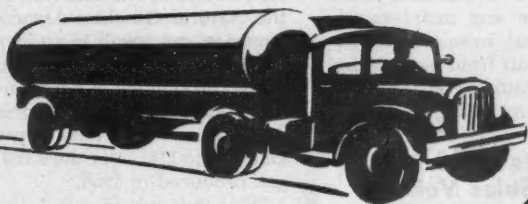
New 1954 2-ton Chevrolet, 2-speed, 825 x 20, 10 ply rear tires, \$2100.00

Hose Reels — Fire Extinguishers
LPG Carburetion

SEVERAL GOOD USED PROPANE
TRUCKS FOR SALE
IMMEDIATE DELIVERY



Reddy Kilowatt begs for mercy before the onslaught of "advertising, publicity and sales training" darts in the hands of Tom Fields, district LPGA secretary (left) and James L. Chancy, Druid Butane Gas Co., Tuscaloosa, Ala. Many conventioners attending the southeastern meeting of LPGA visited the exhibit of the National Council for LP-Gas Promotion to throw darts at the special target of the L. P. gas industry.



**BETWEEN
YOU
AND
YOUR
CUSTOMERS**

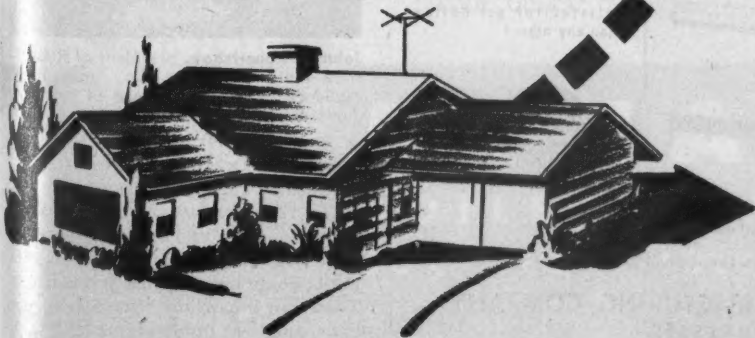
Sprague

**COMBINATION
METER and REGULATOR**

Establish and hold good customer relations by standardizing your metered system with the Sprague Combination Meter and Regulator. Combining modern styling in keeping with today's trend toward streamlined design and accuracy that gives the home-owner complete confidence in your service, this meter brings savings to you through fewer service calls, ease in mounting and a simple actuating design that allows proving by even the smallest of shops.



THE *Sprague* METER COMPANY



MAIN OFFICE and PLANT

**BRIDGEPORT,
CONNECTICUT**

BRANCH OFFICES

**DAVENPORT, IOWA
HOUSTON, TEXAS
LOS ANGELES, CALIF.
SAN FRANCISCO, CALIF.**

drivers were employed by dealers. Classes were restricted to a maximum of 20 students.

The educational program for dealers, branch managers and salesmen, will acquaint these personnel with the rules and regulations of the Louisiana Liquefied Petroleum Gas Commission, with the correct procedure for installing liquefied petroleum gas systems in public places, commercial establishments and homes, and with safety in handling the gas on the highway and in storage installations.

Schools will be held one day in six cities throughout the state. Subjects to be covered in the classes are

proper filling of containers, bulk plant installation and maintenance, liquid withdrawal installations, domestic installations from tanks to appliances, public building installations and vehicles transporting L. P. gas.

Lund Predicts 1954 Increase In Sales Volume

The L. P. gas industry can expect a substantial gain in volume of sales in 1954, but the amount of increase will depend on how aggressively it sells and advertises its product, according to William R. Lund, marketing research manager of Warren Petroleum Corp. A determined sales ef-

fort, he told the annual convention of the Natural Gasoline Association of America, can result in an increase of 10 to 12%, equaling or exceeding expected production of between 6.7 and 6.8 billion gal. Such a production rate, he noted, would represent a gain of 8 to 11% over the 6,150,000,000 gal. produced in 1953.

"Our industry is still in the development growth stage for so many uses," he said, "that even the slight recession we are in won't seriously affect the industry's continuing expansion. This is especially true since so many of the substantial uses of L. P. gas such as cooking, home heating, water heating . . . are relatively inflexible—that is, they are not the first thing a consumer stops buying when he begins to run a little short of money."

Sales efforts particularly will need to be intensified in the domestic field for home cooking and heating, he said, because of the increasing competition from electric appliances and the broadening availability of natural gas.

Employee Publications Cited By Robertshaw

John A. Robertshaw, president of Robertshaw-Fulton Controls Co., cited the employees' publications as "a symbol of the unique position of the American worker" in a radio talk recently. Appearing as the featured speaker on the Freedoms Foundation

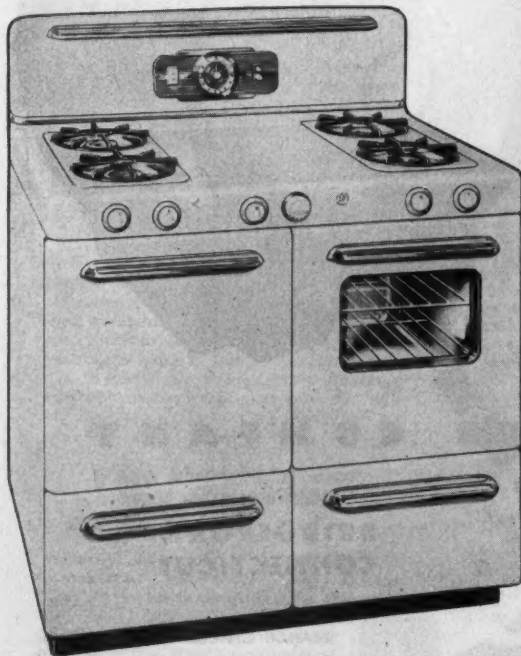


John A. Robertshaw, president of Robertshaw-Fulton Controls Co., told radio audience of the importance of the employee publication.

program, Mr. Robertshaw stressed the human side of industry.

"In America we've found that a man is happier and does better work if he understands not only how the job is done, but why the job is done. That's an important reason why we have employee publications."

Why any woman will buy *Enterprise* the range that delivers more cooking satisfaction per dollar!



JUST WHAT do most women want in a gas range? A recent survey shows that the minute timer, oven light and window, cook-top light, divided cook-top, and easy-to-clean broiler are most-wanted features.

WHAT DOES SHE GET with Enterprise? **All these features**, plus appliance outlet, oversize oven with non-tilt racks, waist-high broiler, additional low broiler, life-time top burners, vitreous rustproof porcelain throughout, Titanium porcelain on all outside panels.

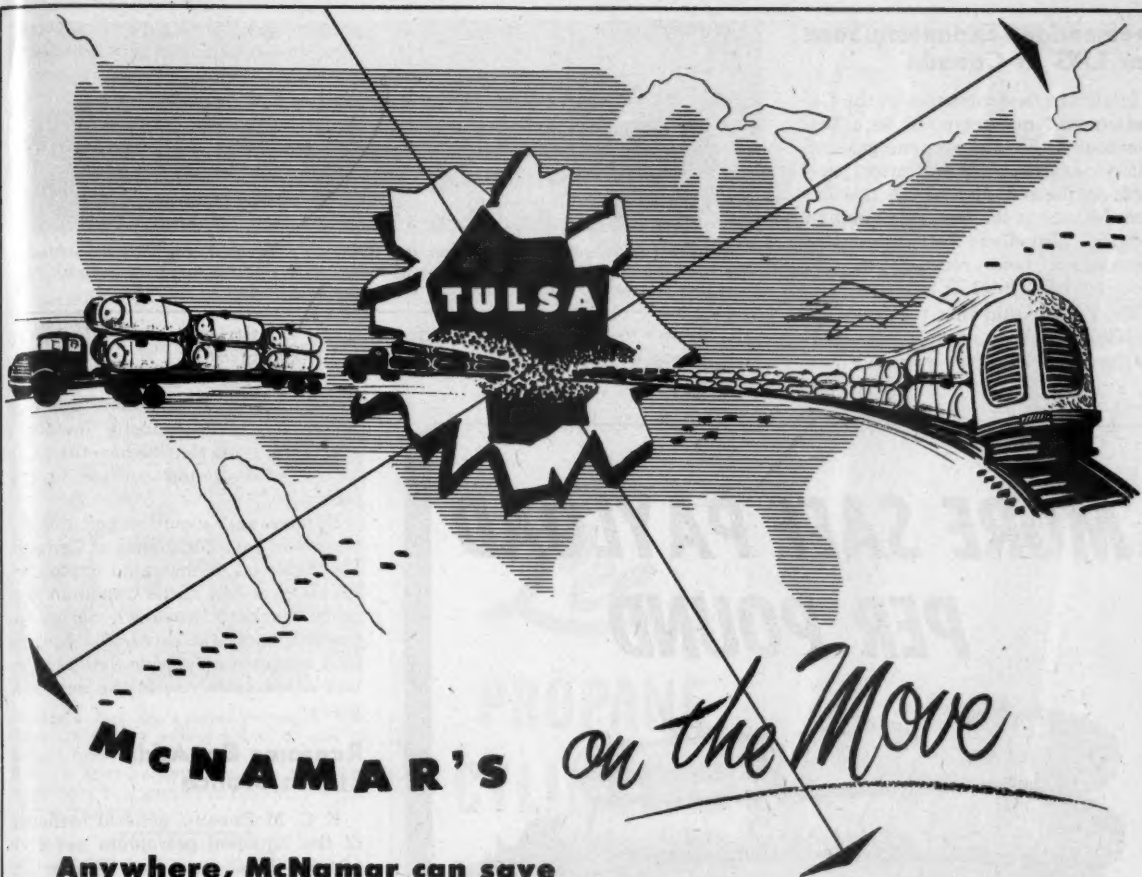
POINT OUT these Enterprise features to any woman. Then show her the same features on "big name" ranges costing much more. Chances are, she'll buy Enterprise . . . the range that gives her more cooking satisfaction per dollar than any other!



WRITE TODAY FOR FULL INFORMATION

Serving a value-conscious America for nearly 100 years

PHILLIPS & BUTTORFF MANUFACTURING COMPANY
NASHVILLE, TENNESSEE



**Anywhere, McNamar can save
you money by truck or by F.I.T.
rail shipment.**

UL approved on all sizes.

ASME 250 lb. working pressure meets and exceeds all
requirements of U-69.

Three liquid lines (Built in excess flow).

115 gallon to a 50,000 gallon storage.

Most competitive prices in the industry for quality
code tanks.



McNAMAR

BOILER & TANK CO.

BOX 868 • TULSA, OKLAHOMA

Tremendous Expansion Seen For LPG in Canada

Imminent developments in the Canadian fuel market point to a tremendous future for propane gas and allied industries, Mel J. Trotter, president of the national LPGA, said at a conference of the eastern Canadian district, Liquefied Petroleum Gas Association held recently at the Mount Royal Hotel in Montreal.

Mr. Trotter said that the trade association has been one of the strongest forces in our free economy and



V. D. Barber & Sons of Fairbanks uses this 8000-gal. transport, the largest in Alaska. This triple-barrel LMC transport is one of many units manufactured by Lubbock Machine and Supply Co. Inc. of Lubbock, Texas, for LPG dealers in Alaska.

"its ability to effectively and efficiently solve mutual problems of

many industries is a key factor in industrial growth."

"In most cases," he said, "the trade association has been able to improve the profits of its industry members and at the same time reduce the price of its product and service to the customer."

In opening the conference, district chairman John McQueen, of Toronto, also referred to the rapid expansion that is expected in the Canadian propane market. Propane's ability to provide comforts in rural areas, he said, makes it inevitable that its sales will continue to rise in the next few years.

Ransome Co. Adds Eighth Branch

E. C. McEneaney, general manager of the liquefied petroleum gas division of Ransome Co., Emeryville, Calif., has announced the purchase of the Mountain Rotary Fuel Co. of Truckee, Calif. Ransome Co. will operate this plant as its eighth branch, offering a complete service in L. P. gas, stove and diesel oils, and appliances.

Los Angeles Home Show To Be Held June 10-20

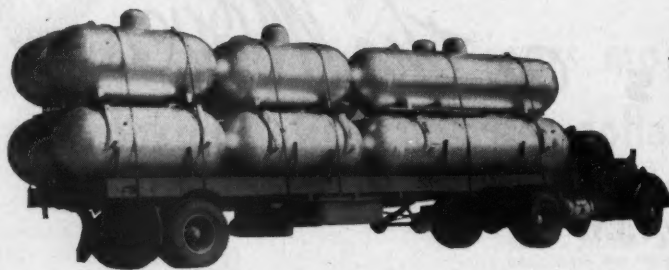
Plans are fast concluding for the Los Angeles home show to be held at the Pan Pacific auditorium June 10-20, according to executive manager Carl F. Kraatz. Most of the exhibition space is sold for this ninth annual construction industries exposition.

Bigger and better exhibits are in store for those attending this year, Mr. Kraatz said. "Dealers and manufacturers realize more and more the tremendous promotional and sales opportunities of the Los Angeles home show. This means they have put even more effort and planning into their exhibits than previously."

A new feature of the home show this year will be a European exhibit.

Two model all-gas houses, the "Kenbo Contemporary" and the Cliff May "Magazine Cover House," will be shown and feature the very latest in California-type architecture, de-

MORE SAFE PAYLOAD PER POUND



DOMESTIC TANKS

FOR PICK-UP, TRAILER OR CARLOAD

- LIGHT WEIGHT • LOW COST
- ASME U69 TO MEET ALL STATE AND FEDERAL REQUIREMENTS

WRITE FOR FURTHER INFORMATION AND PRICES

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Box 391

STEEL CO.
SAPULPA, OKLAHOMA

Telephone
Sapulpa 2680
Tulsa 50-8500

corating, furnishing and landscaping. They are both in the low-cost, popular-price class.

Honolulu Gas Co. Is Up to Date

The modernity of the Honolulu Gas Co. has impressed gas manufacturers' representatives visiting Honolulu recently. The mid-Pacific metropolis boasts a Gasco operation second to none in any city with comparable population.

The new gas company building now being constructed in the heart of



Honolulu Gas Co.'s sales manager, Bob Scott, points up selling points of gas to group from Kapiolani Furniture store. Briefing sales personnel on gas appliance superiority has proved a profitable facet of merchandising.

the financial and shopping district will be one of the most imposing structures in Honolulu. The building will be seven stories.

Typical of the up-to-date operation of the gas company is the internal training program constantly conducted to educate both dealers' salesmen and employees to the advantages of gas. Selling points are pointed out.

Increased Usage of LPG For Petrochemicals

Rapid growth in the production of petrochemicals, which are chemicals produced from natural gas or hydrocarbons derived from the processing of natural gas or petroleum, has produced an increased demand for LPG. The use of natural gas and petroleum products as raw materials has been due to lower cost and abundance at a high degree of purity.

One of the important groups of petrochemicals constituted an estimated 70% of the 1953 petrochemical production and was derived from hydrocarbons using methane, butane, and butylene. About 275 million gal. of propane were needed to produce 500 million lb of ethylene, the estimated yearly demand. The use of propylene in petrochemical manufacture in 1953 was estimated at 260 million gal., while the production of

"All Around CHAMPS"

***100 LB.
PROPANE CAPACITY**
Approx. Tare Weight—70 lbs.

Lee PROPANE CYLINDERS

Exactly fabricated to
ICC4BA240. specifications of High-Strength
Steel . . . Light in Weight
but strong and durable
. . . Lee Cylinders are
truly CHAMPIONS of
the industry.

**20 LB.
PROPANE CAPACITY**

*FEATURES . . . Date Plate—Embossed
Footring . . . High Quality Paint Finish

**STEEL COOPERAGE
DIVISION**
THE SERRICK CORPORATION
4801 BELLEVUE • DETROIT 7, MICHIGAN



Want to pin-point your delivery trucks?



with RCA 2-Way Radio

—says Roy Forsberg, district manager,
Suburban-Propane Gas Corp., Mahwah, N. J.

"RCA 2-Way Radio speeds up our service for more than 9000 customers in this district," Mr. Forsberg reports. "With it the office can keep in constant touch with 3 tank trucks, 2 cylinder trucks and 4 general-purpose trucks—whether they're parked or moving."

"Customers phone in requests for service. Office personnel know where every truck is. Often within 5 or 10 minutes they can have the nearest truck at the customer's door. Radio saves valuable time in locating and dispatching. And the customer's reaction is a very enthusiastic one!"

Assistant district manager Ray Jobs: "As a result of being able to reach drivers immediately, we make more efficient use of our manpower and equipment. We can route our trucks and men better, and save a lot of hours."

Driver Wilfred Groschop: "With radio, I save a lot of backtracking. And I don't have to stop and look for a phone any

more. Before radio, we had to call in several times a day—that often meant riding a mile or two out of the way to locate a phone."

President Mark Anton: "I was quite certain radio could help our business, and results seem to be confirming my first hunch. Our men who use radio have found it saves them considerable time, and expedites our service to customers."

Check the value of RCA 2-Way Radio for your operation—find out for yourself exactly what it can do, what it can save in operating costs, what it can net you in improved service. *Send the coupon below.*

DO IT BEST with RCA 2-Way Radio

Easy to use as your telephone. COMPACT—takes no more space than a spare tire. TOUGH—takes rough riding. RELIABLE—engineered by leaders in electronics. PRACTICAL—serviced and installed by the nation-wide RCA Service Company, if desired.

Radio Corporation of America, Communications Equipment, Dept. F204, Building 15-1, Camden, N. J.

Without obligation on my part, please send me your latest informative reprint, "Suburban-Propane Adds Mobile Radio to Mobile Gas Mains."

Name _____ Title _____

Company _____ Address _____

County _____ City _____ Zone _____ State _____

☐ Please have an RCA communications specialist get in touch with me.



RADIO CORPORATION of AMERICA
COMMUNICATIONS EQUIPMENT CAMDEN, N. J.

butadiene required 3,150,000 bbl of normal butane and 4,370,000 bbl of normal butylene. LPG is also used to produce formaldehyde, various alcohols and acetic acid.

The increased use of LPG in producing petrochemicals is not expected to upset the present market position of the fuel, since butane-propane utilization for chemicals will to a large extent be controlled by the delivered LPG price. Any major increase in cost will divert chemical operations to dry gas sources.

Water, House Heater Shipments Rise

Shipments of automatic gas water heaters and gas-operated house heating equipment continued to forge ahead during the first quarter of 1954, according to the Gas Appliance Manufacturers Association.

Edward R. Martin, GAMA's director of marketing and statistics, reported that total shipments for all three types of gas central heating equipment—furnaces, boilers and conversion burners—numbered 135,500 units during the first three months of this year as compared with 132,500 during the same period of 1953.

Dealers and distributors received 188,900 water heaters during the month of March, Mr. Martin said, an increase of 13,900 units over the previous month. March's total increased shipments for the first quarter of 1954 to 528,300. Last year's total was 575,500.



When Mrs. Wanda Jennings won the Mrs. America title at the national competition at Ellinor Village, Florida, recently, she used a Detroit-Jewell gas range to demonstrate her homemaking qualifications. The Detroit-Michigan Stove Co. promptly named the new range the "Mrs. America" in her honor.

Here's the **NEW Stanflame** . . .

**priced right, designed right
for the profitable gas conversion market**

American-Standard announces the completely redesigned New Stanflame—a real profit-builder for you in the big gas conversion burner market. Available with 60,000 to 325,000 Btu inputs, this versatile burner fits the vast majority of boilers, furnaces and winter air conditioners . . . is A.G.A. listed for all types of gases, and has acceptance by major utilities. It gives economical, trouble-free service and assures customer satisfaction.

The New Stanflame is priced right—costs no more than burners offering less in quality and design features. It is easy to install. Factory assembly and pre-wiring are just two of the plus features of the New Stanflame that reduce installation time and labor costs to a minimum!

Among the other important features of the New Stanflame are runner-type pilot igniter for convenient lighting of the pilot burner, and quiet-operating Detroit Bi-Flex gas valve and timed-



cycling thermostat. All are standard equipment.

Get your share of the rapidly expanding gas conversion market. Promote and sell the New Stanflame by American-Standard. Ask your wholesaler for details—and descriptive literature, Form 14-8.

Special Design Features

MANUAL SHUT-OFF VALVE—permits pilot ignition only when in "off" position.

MIXER TUBE—Adjustable and fixed orifices regularly supplied.

GAS PRESSURE REGULATOR—vented to meet safety requirements; stainless steel vent tip.

AUTOMATIC MAIN GAS VALVE—Detroit V-579 Bi-Flex Valve standard. Designed for manual opening in case of power failure. Returns to normal automatic operation when power resumes.

PRIMARY AIR CONTROL—adjustable; won't clog with lint or dust.

PILOT BURNER—thermocouple safety type. Pilot filter prevents clogging of the pilot orifice.

FLAME SPREADER—stainless steel; diffuses flames to walls of combustion chamber for greatest heat transfer.

MAIN BURNER—single port, up-shot type; large burner tube provides proper mixture of gas and air. Ribbon flame stabilizer prevents "floating" flame.

AUTOMATIC PILOT—stops gas flow if pilot flame goes out.

SECONDARY AIR DOOR—readily adjustable without affecting primary air.

ADJUSTABLE BURNER SUPPORT—permits leveling of the burner on uneven floors.

RUNNER PILOT IGNITER—standard equipment for convenient ignition of pilot burner. Electric igniter at slight extra cost.



AMERICAN-Standard

HEATING

American Radiator & Standard
Sanitary Corporation

P. O. Box 1226, Pittsburgh 30, Pa.

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUREAIR AIR CONDITIONERS

MOST WELDERS LIKE *Weldit!*



Not all welders like Weldit TORCHES, but the demand indicates that most welders prefer them . . . because they produce top quality welding, are economical, cause less operator's fatigue, possess long life, engineered design and backed by a factory service policy.



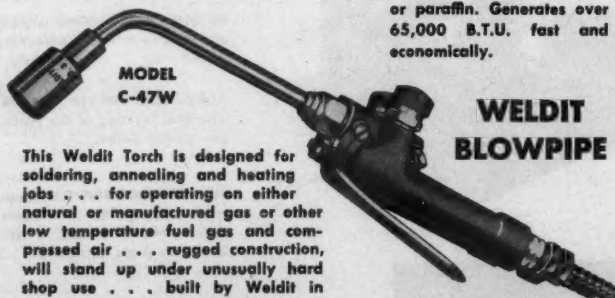
HISTORY OF WELDING

In jewelry shops during the Italian Renaissance, artisans used small blow-pipes to weld chalices and vessels of gold and silver. This method is known as the autogeneous process of welding.



WELDIT L-P PLUMBER'S FURNACE

A new Weldit L-P Plumber's Furnace for plumbers and Tinsmiths. This Furnace can be converted to floor or tank top use, melts lead, babbitt, solder, tar, asphalt or paraffin. Generates over 65,000 B.T.U. fast and economically.



MODEL
C-47W

This Weldit Torch is designed for soldering, annealing and heating jobs . . . for operating on either natural or manufactured gas and other low temperature fuel gas and compressed air . . . rugged construction, will stand up under unusually hard shop use . . . built by Weldit in accordance with recommendations of a large fabricator of sheet metal products.

WELDIT BLOWPIPE

Canadian Distributor: Alloy Metal Sales, 181 Fleet St., E., Toronto 5, Ontario, Canada.

Weldit
INC.
SINCE 1918

990 OAKMAN BLVD.
DETROIT 38, MICHIGAN

Gas Measurement Course To Be Held In W. Va.

The 14th annual Appalachian gas measurement short course will be held at West Virginia University, Morgantown, W. Va., on Aug. 23-25.

The only course of its type given east of the Mississippi, the session is attended annually by measurement and control engineers and other technical personnel representing the petroleum, gas and chemical industries. Attendance is expected to reach about 750 this year.

Subjects to be covered will include fundamentals of gas measurement and special sessions on domestic meters, large capacity meters, orifice meters, auxiliary measurement instruments, automatic control instruments, planning and design of installations, and pressure regulators, motor valves and related equipment.

Servel, Caloric Win Advertising Honors

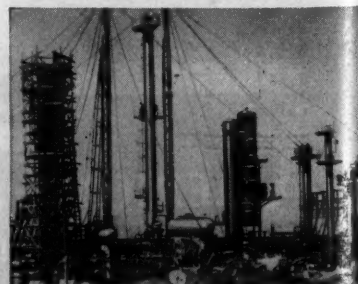
Servel Inc. and Caloric Stove Corp. recently won top honors for advertising in two divisions of the Associated Business Publications' annual competition for the most effective use of advertising to dealers and distributors.

Servel received first-place honors in the division of advertising used to introduce new products or new packaging. Their winning advertisement launched the automatic ice-maker refrigerator.

Caloric won the multi-page advertisements division with a four-page insertion in *Electrical Merchandising*.

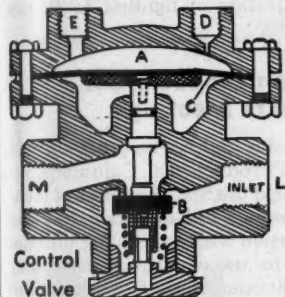
Chile's First Oil Refinery Speeds Toward Completion

An important addition to South America's oil economy, Chile's first refinery, is rapidly nearing completion about 10 miles north of Valparaiso. Designed and engineered by the M. W. Kellogg Co. for Empresa Nacional del Petroleo, the refinery is expected to be completed late this

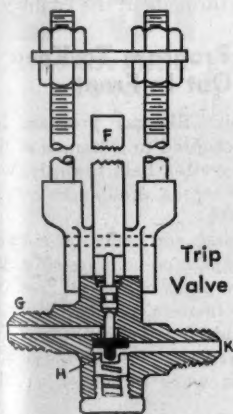


Chile's first refinery is rapidly nearing completion near Valparaiso.

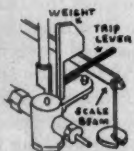
File this under
**BULK PLANT
ECONOMY**



Control Valve



Trip Valve



Trip Valve—side view

AUTOMATIC **CYLINDER FILLING MANIFOLD** with **Control Valve and Trip Valve**

- Contents automatically controlled to plus or minus 2 oz.
- 2, 4 or 6 cylinders can be filled simultaneously including trailer cylinders

HOW MANIFOLD WORKS

The Trip Valve is mounted on the scale with lever F just above the scale beam. Inlet K is connected to opening E of Control Valve. Either vapor or air @ 30 lbs. is connected to opening D. Inlet L is connected to pump discharge. Opening M is connected to cylinder filling hose. To fill cylinder set trip F. This closes valve H, causing pressure to build up in chamber A above diaphragm C, forcing valve B open and liquid enters fill hose and cylinder. When cylinder weight raises scale beam the trip lever weight falls, opening valve H which exhausts air or vapor to atmosphere thru opening G. The pump and spring pressure immediately closes valve B, stopping all flow into cylinder-filling hose.

- 100 lb. cylinders filled in less than a minute
- 2 cylinder manifold can be easily enlarged to accommodate 4 or 6 cylinders.

HOW YOU OPERATE THE MANIFOLD

1. Place cylinder on platform, set scale beam for proper gross weight.
2. Raise Trip Valve weight to "set" position.
3. Open cylinder valve and fill-hose valve on each cylinder.
4. Close valves on cylinder and fill-hose.
5. Disconnect hose at cylinder valve.

See our Bulk Plant Display at the Texas Butane Dealers Association Convention in Dallas, June 23, 24 and 25.

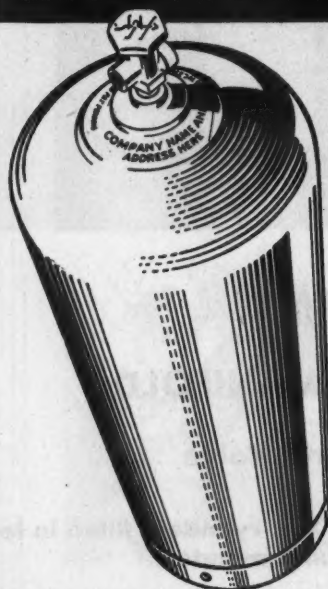
RDNEY INC.,

105 COLE STREET, DALLAS, TEXAS

EQUIPMENT AVAILABLE FOR IMMEDIATE SHIPMENT



CYLINDERS



Get the most for your money... Weatherhead Cylinders. Bone dry—no freeze-ups! Drawn from high-tensile steel—ready for rugged service! Light weight—easy to handle! CONVENIENT CREDIT TERMS!

For cylinders, regulators, valves, manifold assemblies, automatic bottle fillers and tank manifold units, order from Weatherhead—the only manufacturer of a complete line of LP-Gas equipment for ALL bottled gas installations. The Weatherhead Company, Dept. G-1, 300 E. 131st St., Cleveland 8, Ohio.



WEATHERHEAD



New outdoor advertising boards used by Temco Inc. on the principal highways leading to Nashville, home of Temco appliances, measures 60 ft by 20 ft overall and has a third dimensional trade mark cutout of "Tiny Temco" that is 8 ft in height. The entire board is flooded at night with six 500-watt bulbs. The purpose of the billboards is prestige, rather than direct consumer advertising.

summer. Construction is under the supervision of Kellogg's subsidiary, Kellogg Pan American Corp., and includes the power plant and all principal offsite facilities as well as all process units.

The Chilean refinery will have a capacity of 20,000 bbl per day. Facilities in the combination unit comprise atmospheric distillation, visbreaking, thermal reforming, thermal cracking, gasoline stabilization, and sulfur removal from fuel gas, liquefied petroleum gases and gasoline. Products from the plant will include, in addition to LPG, motor gasoline, tractor gasoline, kerosene, two grades of diesel oil and heavy fuel oil.

Mueller Conducts Air Conditioning Schools

Strides toward proper installation and servicing of air conditioning equipment have been taken by Mueller Climatrol with their three cooling schools held in Milwaukee for customer service representatives. The five-day schools were conducted in conjunction with the Milwaukee School of Engineering.

The air conditioning classes were instructed by Mueller technicians, engineering school faculty and other refrigeration and air conditioning specialists.

Based on a regular 18-month refrigeration course curriculum, the school subjects included air properties, supply and distribution, refrigeration fundamentals for air conditioning, cooling load calculation and equipment. Laboratory sessions were also scheduled.

Kentucky Completes Plans For Service School

Plans for Kentucky's first week-long L. P. gas service school, scheduled for June 13-18 at the University of Kentucky, are nearing completion, according to Jess B. Ward.

Subjects scheduled for the course include L. P. gas—the product, regulators, pipe sizing, safety devices, burners and the problems of combustion, venting, cylinder installation, bulk plants and pumping, and a demonstration of fighting L. P. gas fires.

Norman Products Co. Conducts Meetings

The sales and engineering staff of Norman Products Co., Columbus, recently held the first of a series of technical meetings to familiarize the sales organization with the cooling unit developed for use with their year-round air conditioner. Technical schools for Norman's sales organizations will be conducted throughout the country.

Skelgas Program To Keep Dealers Out In Front

The entire Skelgas program for 1954, as presented to salesmen at the key sales meeting held recently, was aimed at keeping appliances out in front in 1954.

Advertising and sales promotion projects, appliance catalogs illustrating the new lines of ranges, freezers and water heaters, adaptable credit opportunities for dealers, plans for traffic builders—all of these and more plans were presented at the meeting.

To help dealers get the line of appliances into their stores, the credit department presented several plans for financing payment. For approved dealerships the first plan is the open account, or a one percent discount for payment within 10 days, the balance due within 30 days. Dealers as well as sales representatives have been asking for these terms.

A second plan, called a future dating plan, gives a chance for dealers to carry heating appliances or other specific types of merchandise until October 1. No investment is needed,

Built to Last



LP-Gas Storage Tanks by Downingt-
town Iron Works are built to last...
will keep your maintenance costs low
throughout year after year of carefree
service.

Special Welding Techniques—devel-
oped by Downingtown experts and
approved by ASME—produce welds
that are extra strong and sound,

exceptionally smooth and neat. Welds
are spot checked by X-ray with almost
twice the number of pictures required
by ASME Code.

Construction meets all require-
ments of ASME, API and NBFU.
Equipped with first-quality valves and
fittings if desired. Foundation draw-
ings supplied with tanks.

Capacities from 4,000 to 30,000
gallons (W.C.). Write for detailed
specifications.

Sales Offices: 227 Hanna Bldg., Cleveland 15
—936 W. Peachtree St., N.W., Room 112,
Atlanta 3—208 South LaSalle St., Room 790,
Chicago 4—552 Roosevelt Bldg., Los Angeles
17—18 West 43rd Street, Room 13, Kansas
City 11, Missouri.



DOWNTOWN IRON WORKS, INC.

138 Wallace Avenue, Downingtown, Pennsylvania

New York office: 52 Vanderbilt Avenue, New York 17, N. Y.

DIVISION OF



Pressed Steel Tank Company

MANUFACTURER OF HACKNEY PRODUCTS

Milwaukee 14, Wisconsin

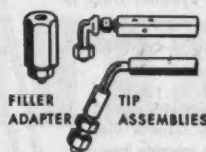
LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS

B-91

PROPANE
TORCH

Mutual

YOUR FIRST CHOICE



SOLDERING, BRAZING, SWEATING, MELTING

The handiest torch you have ever seen.
Especially useful for jobs where larger tanks
or connecting hoses would hamper or en-
danger workmen. The B-91 Torch can be
held in one hand with ease.

This Mutual Portable Torch is ready for
instant use; generates in any weather. No
pumping or priming. No warm up or sooting.
Flame won't blow out. Easy and safe to light
and control. Heats up to 2300 degrees F.
Over 4½ hours continuous use in the cylin-
der. Fill it yourself for approximately ten
cents — nothing to throw away. Cylinder
meets ICC regulations and is equipped with
fusible plug.

Try it! Get the complete B-91 Kit. Sell it
on its labor saving merits. Sell it to plumbers,
electricians, garages, linesmen and sheet
metal shops. Display it in your store window.
Use the B-91 as a leader; you'll be sur-
prised with results. **SEND TODAY** for com-
plete catalog and prices on all Mutual
equipment.

Member L.P.G.A.

INSTANT **HEAT**
NO PUMPING — NO PRIMING

Mutual

LIQUID GAS EQUIPMENT CO., INC.

3638 W. IMPERIAL HIGHWAY, INGLEWOOD, CALIFORNIA



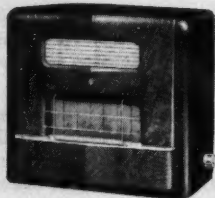
FIRST in the heat parade

**SELL THE
COMPLETE
LINE**

Martin

V370

**GAS
HEATERS**



8 Fully Vented Heaters
15,000 BTU to 85,000 BTU

23 Unvented Heaters
10,000 BTU to 50,000 BTU

All Martin Heaters AGA approved for
natural, liquefied and manufactured gases.
Write your jobber or direct for new catalog.

Over
49 years stove
experience



MARTIN STAMPING & STOVE CO., Huntsville, Ala.



Cylinder Trucks Cut Delivery Costs!

The M/W trade mark signifies the cylinder truck is
made by the world's oldest and original manu-
facturer of trucks for handling LPG cylinders.



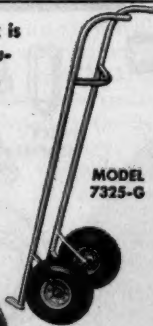
**MODEL
7325**

Standard cylinder
truck shown at left is
available with size 10
x 2.75 tires in two
types.

Air Tires.....\$19.25
Semi-pneu-
matic\$18.20

Truck at right is
equipped with size 10
x 3.50 General tires
having separate inner-
tubes.

A popular
model of.....\$27.40

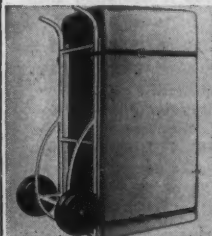


**MODEL
7325-G**

Pneumatics
are
featured
on
M/W
trucks.

**WRITE FOR
COMPLETE CATALOG**

Trucks also available for handling large 400 pound bulk
cylinder. Write for illustrated literature and prices.



**Appliance Truck
Model 229**

The safe, sure way to move heavy appliances. Large
12" air tires prevent damage to linoleum or varnished
floors. Truck provides safe way to move heavy ap-
pliances up or down stairs. Price with
two 12 ft. web straps\$47.60

(Distributors in Principal Cities)

ALL TRUCKS MFG. BY

Moellenbrock & Wilke

WASHINGTON, MISSOURI

no interest and no handling charge
are asked, but a one percent discount
is given for prompt payment.

To give an opportunity for a full
display of appliances on a dealer's
floor with a low investment, plan
number three, the floor plan, pro-
vides for credit with payment de-
ferred for 90 days from the shipping
date. During this period only a down
payment of 10% of the invoice price
(plus interest for the first 90 days) is
needed. The interest rate is six per-
cent or an amount equaling one half
of one per cent per month on the un-
paid balance. If the dealer pays off
this balance on any appliance within
30 days, he gets a full refund of inter-
est paid on that appliance. He also
gets a refund on the unused portion
of interest he has paid if the amount
due on an appliance is taken care of
during the 30 to 90 day period.

For a dealer with slower sales, ap-
pliance items still in stock after 90
days are carried for him another 60
days. Then a further payment of 10%
of the original cost is required plus
interest on the extended balance—at
the rate of one percent for the 60 day
extension. Dealers will get refunds of
interest that apply on the unused
portion.

In extreme cases, one more exten-
sion of 30 days is allowed but another
10% payment of original cost is ne-
cessary plus interest of one half of
one percent on the unpaid balance.

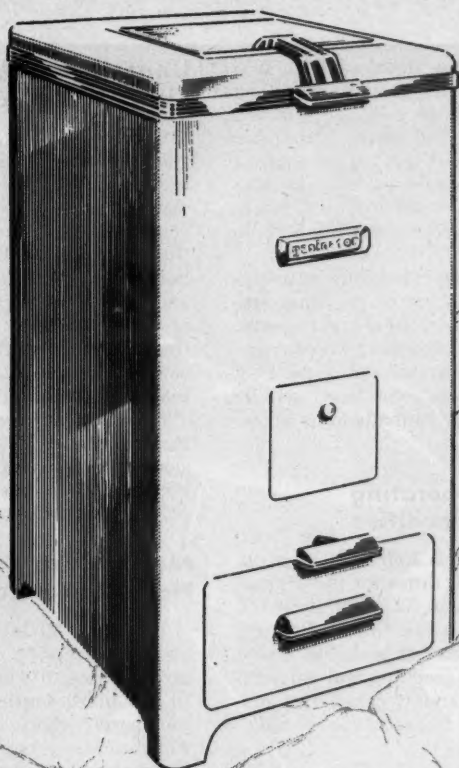
This final provision gives a dealer
a full six months from shipping date
to sell the appliance—plenty of time
for a complete turnover in practically
all situations. At the end of this six
months period, the balance is due
whether or not the appliance has
been sold.

Skelgas has planned a farm paper
program with some 21 million adver-
tisements appearing in a selected list
of farm publications. Radio and tele-
vision will also be used for advertis-
ing, as will outdoor billboards.

Oil and Gas Reserves Hit New High In 1953

Proved reserves of liquid petro-
leum and natural gas rose to a new
all-time high in 1953, the American
Petroleum Institute and the Ameri-
can Gas Association announced in
their joint annual report. Proved re-
serves of liquid petroleum now total
34.3 billion bbl, representing a net
increase of 1.4 billion bbl.

The additions to proved reserves
were accomplished in the face of
record-breaking withdrawals in 1953.
Production of liquid petroleum was
estimated at 2.6 billion bbl during the
year.



Introducing
**the world's
 first
 automatic
 disposal
 unit
 designed
 specifically
 for LP gas**

gasinator

NOW! BIGGEST LP NEWS IN YEARS!

Here, at last, is the FIRST automatic LP gas disposal designed especially for LP use, — not just a city gas model converted for LP! Here is the only dehydrator-type disposal that will operate for \$2.00 per month, or less!

With Gasinator, you have no seasonal sales slumps, no trade-in problems, no electric competition! And almost every home is a prospect, for Gasinator is more than a convenience . . . it's an absolute necessity in many LP gas areas where garbage and rubbish collections are irregular or non-existent.

Gasinator does BOTH . . . disposes of garbage and rubbish, too . . . inside the home with no smoke or odor. Large, two-bushel capacity, completely automatic with no buttons, switches, dials. Fully field-tested and AGA tested and approved!

GASINATOR'S TREMENDOUS SALES APPEAL IN YOUR OWN HOME!
 Special price available for dealer's personal use!

**A FEW TERRITORIES STILL AVAILABLE FOR MANUFACTURERS
 REPRESENTATIVES. WRITE — WIRE — PHONE FOR INFORMATION!**

gasinator MANUFACTURING COMPANY
 2108 Payne Ave., Cleveland, Ohio

World's largest manufacturer of gas disposal units exclusively.

prove

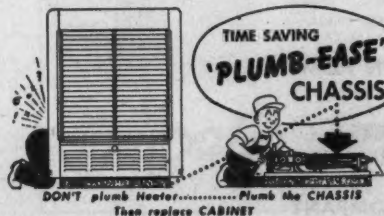


COOL CABINET CIRCULATOR

MODEL NO. 5000 has Fiberglas-insulated cabinet to safeguard baby hands, centralize heat for fan-delivery. Fully automatic . . . safety pilot, thermostatic room-temperature and fan control. Filter, humidifier, draft diverter and summer-switch built in. 100% welded radiator prevents odor, sweating. Efficiency burner gives balanced flame, is non-clog. Cast iron combustion head insures long life. Giant fan provides even, gentle, penetrating heat flow, minus torrid gusts to living zone or cold blasts during warmup. Is quiet, vibrationless. Plumb-Ease chassis drastically cuts installation time. Rated 50,000 btu. Beige and Ivory baked finish, gold-bronze trim. A.G.A. approved for all gases, high altitudes.

FOR FRANCHISE DETAILS,
LITERATURE AND PRICES,
WRITE TODAY

**THE OHIO FOUNDRY
& MANUFACTURING CO.**
"Quality Heating Since 1846"
STEUBENVILLE, OHIO



New supplies developed in 1953 aggregated more than four million bbl, according to API. This means that for each bbl of oil withdrawn from the ground last year the industry found enough not only to compensate for each bbl produced, but to add slightly more than one half bbl to reserves.

The joint report covers new discoveries, revisions of previous estimates and extensions of known pools. The reserves represent known supplies, the location and extent of which have been established, and do not include any estimate of oil or gas in the U. S.

Ashland Operating New LPG Facilities

Ashland Oil & Refining Co. is operating new facilities for the production of L. P. gas. The Buffalo plant, operated by the Frontier Oil Refining Co. division of Ashland, has added fluid catalytic cracking and polymerization units and is capable of processing 30,000 bbl of crude oil daily.

Janitrol Presents Sales Promotion To Dealers

A large and comprehensive sales promotion campaign was recently presented by Janitrol division of Surface Combustion Corp. to dealers at a series of meetings held throughout the country. Dealers received detailed, first-hand reports from sales executives on the company's new line of home comfort equipment, and a complete array of merchandising helps.

Underwriters' Lab. Lists Gas Detectors

Combustible gas detectors for installations in Class I, Group D, hazardous locations to analyze and warn of dangerous concentrations of combustible gas have been listed for the first time by Underwriters' Laboratories Inc. Mine Safety Appliances Co., Pittsburgh, manufacturer of the instruments, announced also that approval of the units was received from Associated Factory Mutual Fire Laboratories.

The Underwriters' listing approves the installation of the MSA explosion-proof instruments right in the area where combustible gases or vapors may be present.

Madden Brass To Have New Location

On June 1, Madden Brass Products Co. of Chicago will occupy new quarters located at 948 Oliver St., Aurora, Ill., 38 miles southwest of Chicago. The larger, more modern quarters were found necessary due to the company's steady growth, and with the new facilities more efficient operation and product control will be possible.

Surface Combustion Corp. Moves Chicago Office

Surface Combustion Corp. of Toledo, Ohio, has announced the moving of their Chicago industrial furnace division office from 122 S. Michigan to Park Ridge Federal Bank Bldg., 116 S. Prospect in Park Ridge, Ill.



The Rasmus Tholstrup, one of the few vessels built for the specific purpose of transporting liquefied petroleum gas, was launched recently in Marstrand, Sweden. The ship will transport L. P. gas between Germany, Holland, Sweden and Denmark. L. P. gas is loaded in 12 vertical containers with a capacity for 320-tons. The ship, which is 165-ft long, belongs to A/S Kosangas of Copenhagen, Denmark.



Under Control - all the way...

When you contract for Shell Propane, it's *Shell-controlled every minute from source of production to tank car or transport.*

Shell has long maintained the policy to sell propane only within the company's capacity to produce and deliver. This assures contract customers a continuous supply of Shell Propane.

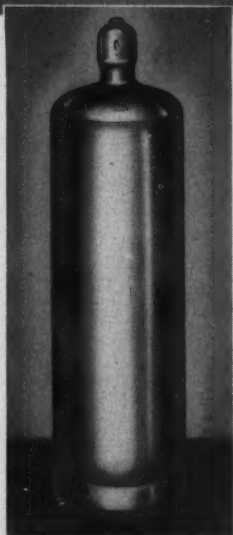
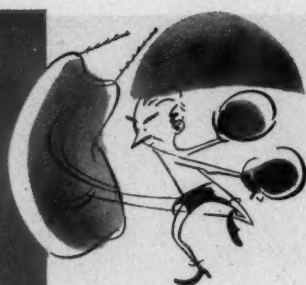


SHELL OIL COMPANY



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INDIANAPOLIS • LOS ANGELES • MINNEAPOLIS • NEW ORLEANS • NEW YORK
PORTLAND, OREGON • SACRAMENTO • ST. LOUIS • SAN FRANCISCO • SEATTLE

LIGHT...
BUT TOUGH
AS THEY COME!



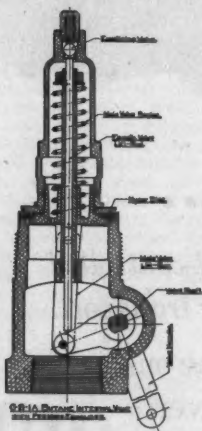
Harrisburg Lite-Weight Cylinders can't be beat when it comes to maximum safety and quality with minimum tare weight. Built to I.C.C. 4BA-240 . . . tested to 480 p.s.i., plus Harrisburg's own rigid strength and uniformity tests . . . they are used and approved by LP gas dealers and bulk plant operators wherever cylinders of superlative dependability are wanted. Write today for Lite-Weight Cylinder Catalog and current prices.

HSC-IP-2/54



HARRISBURG 4, PENNSYLVANIA

POSITIVE CLOSURE FOR ALL L. P. GAS TANKS



Externally operated by remote mechanical control, C-B Valves keep tank outlets closed unless their unique lever action is applied to keep them open.

Valves and fusible links available for storage, bulk delivery, and transport tanks, from 2" threaded type to 3" full flow flame type.

• For complete information write:

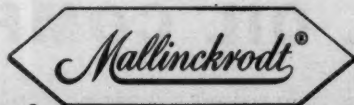
C. F. H. BOHNHARDT
C-B EQUIPMENT
1711 East 41st Place - Los Angeles 58

Mallinckrodt
**ETHYL
MERCAPTAN**
purified

it says LOOK OUT



- The accepted standard odorant for natural or liquefied petroleum gas — gives sure but harmless warning.
- Purified — Moisture-free — PROTECTS FIXTURES. Meets all 15 qualifications of National Bureau of Standards.



MALLINCKRODT CHEMICAL WORKS
Mallinckrodt St., St. Louis 7, Mo.
72 Gold St., New York 8, New York

Portable Cactus Burner Uses LPG

L. P. gas, long popular in preparing food for man, is now being used in the southwest to prepare food for cattle. During summer droughts when normal pasturage dries up, the pulpy stalks of the prickly pear cactus make good emergency rations.

In its natural state the cactus is protected by a thick cover of hard woody spines. These must be re-



moved so the cattle can eat the "ears" without injury.

To burn the spines off the cactus a gas burner is used. Essentially a blow torch unit mounted on a long handle, it fans out an intensely hot, controllable flame that burns the spines quickly and completely before the pulpy stalks have time to be affected. Thus it changes the cactus from a prickly pest to an edible desert cauliflower, and tides the cattle over until the rainy season.

Propane Used to Cook Canadian Fish Sticks

Propane gas is being used to cook Canada's fish delicacy, fish sticks, being produced in the New Brunswick plant of A. & R. Loggie.

Eight propane jets are used to pre-cook the fish sticks in deep fat after which they are frozen and packed for shipping. All they need is a few minutes warming in the oven before serving.

Consumer Prices Published By American-Standard

American Radiator & Standard Sanitary Corp. has published a list of suggested consumer prices for its plumbing fixtures. The purpose of the list is to assist in merchandising activities.

"With more and more contractors

**New
BUTLER**
L. P. G. transport
delivers...

28% MORE PAYLOAD

than conventional equipment



If you are now using older equipment in a state where capacity is, for example, 6,250 water gallons, you can haul 8,000 gallons—an increase of 1,547 gallons of propane—with the new Butler single-barrel rig. Assuming a rate of 1½ cents a gallon for hauling, the additional payload would bring you \$23.21 per trip, \$116.05 for a five-day week at one trip per day, or \$5,802.50 for a 50-week year.

X-ray inspection and stress relief have cut steel to an absolute minimum. You get up to 28% bigger payloads. Available in 72" and 80" diameters, and with water capacity up to 9,000 gallons, propane capacity up to 7,956 gallons.

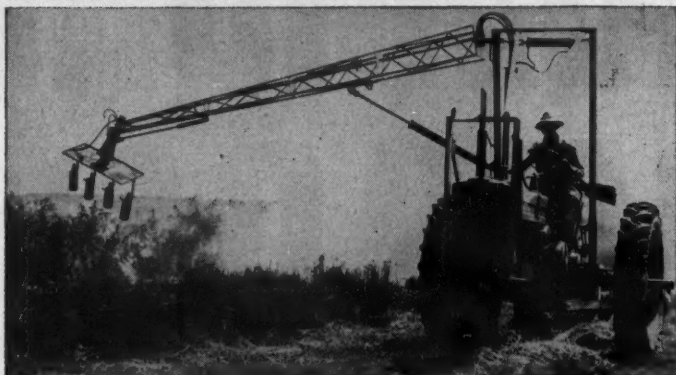


BUTLER MANUFACTURING COMPANY

7410 East 13th St., Kansas City 26, Missouri • 910 Sixth Ave., S. E., Minneapolis 14, Minnesota
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Manufacturers of Oil Equipment • Steel Buildings • Farm Equipment • Dry Cleaning Equipment • Special Products
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FLAME YOUR WAY TO BIGGER LOADS and GREATER PROFITS



AGRI-QUIP Burners Deliver Efficient High Velocity, Properly Controlled by Your Finger-tips.

AGRI-QUIP Builds a Weed Burner to Fit Every Job, Priced for Every User.

Let AGRI-QUIP Help You Plan a Successful Weed Burning Program NOW!



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AGRICULTURAL EQUIPMENT CORP.

P. O. BOX #200

LA JUNTA, COLORADO

A FEW MOMENTS SHOWING IT
MEANS SELLING IT



THE
IMPROVED
KRUG
HAND PUMP
FOR L-P GASES

IT'S AS EASY AS THIS:

Merely stock a sample or two. When your customers come in, it takes only a minute to point out the economy, the complete safety, and the ease of operation they can obtain from the Krug hand pump. You will be doing your customer a favor while earning extra profits for yourself. Write today for full particulars.

DON'T WAIT! DO IT NOW!

SEE YOUR DISTRIBUTOR FOR FULL INFORMATION
OR SEND A POSTCARD TO
D. H. KRUG COMPANY
DEPT. 50, MADISON, SOUTH DAKOTA

Handy Tube Bender

**Smoothly Bends ANY
Pipe or Tubing**

$\frac{3}{8}$ " to $1\frac{1}{8}$ " O.D.



• Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle, U and offset — every time. Eliminate need for els. No more guesses — no kinks! Save enough time, labor and money on ONE job to pay for your Handy Bender.

See your supply house — or write for free folder today.

HOLSCLOW BROS., INC.

434 N. WILLOW ROAD
EVANSVILLE, INDIANA

developing retail stores, and with expanding use of modern merchandising methods throughout the industry, suggested consumer prices will be of benefit to both consumers and those engaged in the specification or sale of fixtures," D. D. Couch, vice president in charge of sales, declared.

Selwyn-Pacific Moves To New Address

Selwyn-Pacific Co. of Los Angeles has moved to new offices at 340 West Avenue 26, Los Angeles 31, Calif. it was announced recently by George Postlewait, general manager.

General Gas Expanding Underground Storage

General Gas Corp. has announced that it is making a six million gal. expansion of its liquefied petroleum gas underground storage facilities at Gibsland, La.

The company, which serves 80,000 L. P. gas consumers in Louisiana and Mississippi, plans to complete enlargement of the Gibsland salt dome storage from eight to 14 million gal. by early summer to insure ample supplies of the gas to meet an expected peak demand in its expanding market.

Standard Oil Plans Underground Caverns

Two 30,000-bbl underground caverns at Lima, Ohio, are planned by Standard Oil Co. for storage of propane and butane gases.

Worthington Ships Pumping Equipment To Israel

The first units of a \$2.1 million purchase of heavy-duty water pumping equipment manufactured by Worthington Corp. for use in a major irrigation project in Israel were shipped from New York recently.

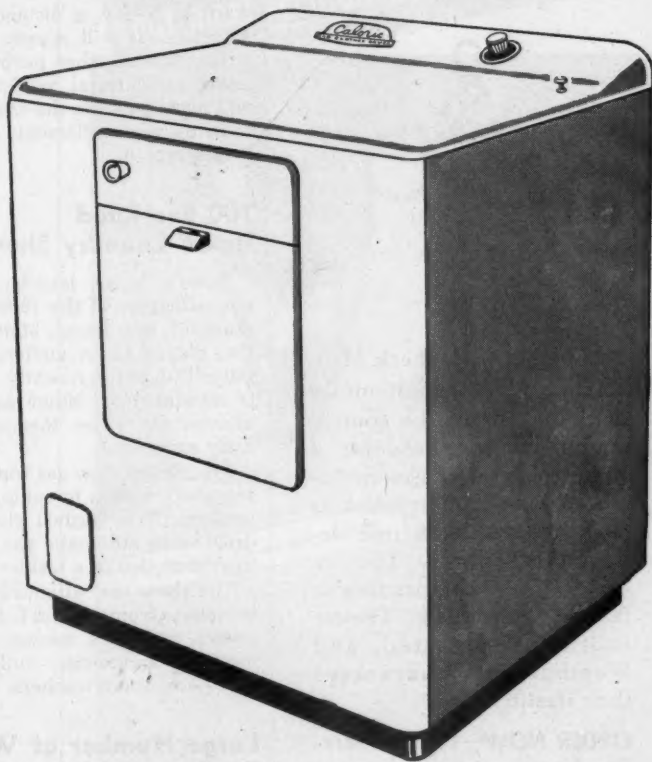
Financed by the Jewish Agency for Palestine, the purchase consists of centrifugal pumps and engines, together with their gears and auxiliary equipment. The machinery is consigned to the Mekorot Water Co., a public agency engaged in the development of water resources in Israel. The first shipment—two complete units—was loaded aboard the steamer "Henrietta Szold" of the Zim-Israel American Lines.

The equipment will be installed in three pumping stations in Israel to carry water from the Yarkon river, near the Mediterranean coast, south-

NOW CALORIC INTRODUCES A NEW LOW-PRICED, VALUE-PACKED AUTOMATIC GAS CLOTHES DRYER

**EXCLUSIVE
NYLON SIFTO-BAG
LINT TRAP**

**EXCLUSIVE
LO-HEET, HI-BREEZE
DRYING PRINCIPLE**



Now Caloric offers dealers the "Dryer buy of the year" . . . the gas clothes dryer that offers prospects *more dryer for less money* than any other on the market. This sensational new Caloric dryer is built with all these outstanding features: "Lo-Heet, Hi-Breeze" economy drying principle, automatic operation, high level air intake, sturdy drop door, Sifto-Bag lint trap, electric ignition, Nupon finish, two ways to exhaust moisture and many, many other features that are making the Caloric name famous in the gas dryer field. Ask your Caloric representative for complete details of the new, low-priced gas dryer with the high quality features.

CALORIC

CALORIC STOVE CORPORATION, TOPTON, PA.

EXCLUSIVELY FOR GAS



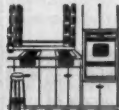
RANGES



DRYERS



DISPOSERS



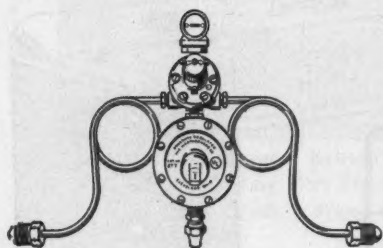
BUILT-IN UNITS

SEND IN THIS COUPON TODAY TO DEPT. BP,
CALORIC STOVE CORPORATION, TOPTON, PA.

Please send me full information on the new low-priced Caloric gas dryers

Name _____

Address _____



Weatherhead Tee Check, Manual, and Automatic Manifold units include all the control equipment you need for a complete bottled gas installation. They're convenient to buy; you deal with one dependable source. They're easy to install because they're factory-assembled. They're individually tested, and Weatherhead guarantees their quality.

ORDER NOW—Prompt service from our warehouses at Albany, N. Y.; Atlanta, Georgia; Dallas, Texas; Memphis, Tennessee; and our plant in Cleveland, Ohio. The Weatherhead Company, Dept. G-1, 300 East 131st Street, Cleveland 8, Ohio.



Worthington pumps, engines and gears were loaded aboard the "Henrietta Szold" bound for Israel.

ward to Negev, a distance of some 43 miles. It will supply water for irrigation and other purposes to existing agricultural settlements and will make possible the establishment of many new settlements in the arid Negev region.

700 See Ruud Home Laundry Show

Ruud's home laundry show, a major feature of the 1954 sales program of the Ruud Manufacturing Co., played to an audience of over 700 in Pittsburgh recently. The show is scheduled for other eastern and midwestern cities this spring and early summer.

During the show gas water heaters supplied water to automatic gas washers. The washed clothes were dried in an automatic gas dryer and then modelled in a fashion parade.

The show was attended by representatives from gas and L. P. gas companies, plumbers, washer and dryer dealers, architects, builders and home economics teachers.

Large Number of Workers On Payroll 20 Years

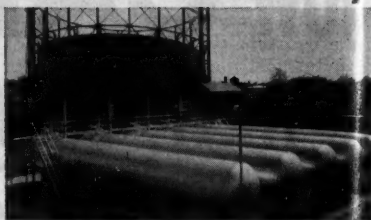
More than 18% of all the employees at Servel Inc. have been on the company's payroll for 20 years or more, according to Victor Bertram, president of the Servel 20-Year club, which is composed of employees with long service records.

A total of 327 employees who have rounded out 20 years of active service were taken into the club at its annual banquet on April 3. The active membership of the club now totals 1323.

Beaird Co. Conducts Annual Sales Meeting

Sales representatives and sales engineers from the 48-state sales area of the J. B. Beaird Co. Inc. gathered in Shreveport recently for the firm's annual spring sales meeting.

Natural Gas Standby



A typical Draketown Propane Plant for augmentation and standby

Whether your load is large or small, you will find a Draketown design to meet your specific requirements. Ready at the turn of a valve—completely automatic if you wish—accurate and dependable—your Draketown Plant keeps that pressure up when things get rough.



PROPANE PLANTS

"Good Gas Insurance"

If you have a gas problem, we can help you. We operate from coast to coast and overseas. Phone or write today—no obligation!

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11 WEST 42ND STREET • NEW YORK 36, N. Y.

ONLY RECTORSEAL #2

offers you
so much
for
so little



In thread compounds, Rectorseal #2 leads the field in quality.

Just consider these advantages:

Thin in the can, it's easier, more economical to use. Thick in the joint, it holds pressures to 11,350 psi. Insoluble in L.P.G., natural and manufactured gas—all petroleum fractions, and anhydrous ammonia. Never hardens, crumbles, cracks or gets brittle. Holds odors. Ideal for all gas industry thread joints. Conveniently packaged in brush-top cans for easy, economical application.

Prove to yourself, "there's no seal like Rectorseal" in price or quality. Your supply house has it or can get it for you.

Write for free sample and additional information.

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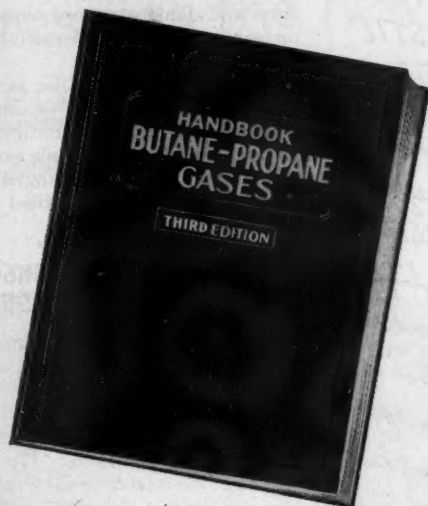
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**The Only Complete Reference Book
on Liquefied Gas Engineering,
Installation and Operation**



**352 PAGES of Technical Facts, Charts,
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*Orders from individuals must be accompanied by
amount of purchase unless credit has been established.*

**SEND ORDER TO BUTANE-PROPANE
News**

198 South Alvarado St.

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88 separate precision tests

make WILCOLATOR

your most accurate oven control



TEST NO. 43—AMPLITUDE.

Here electric thermostats are at-
tached successively to several different makes of
ranges, and tested at various dial readings. The oven is allowed
to run for several hours, as the pen registers on the chart the
thermostat's sensitivity, or amplitude. William F. Harris, in charge
of Control Operations, reads the chart, which shows the tem-
perature at which the thermostat shuts off and then turns on the
current—an exactness which will pay dividends in your cus-
tomers' satisfaction as they use their Wilcolator-controlled ovens.

Whenever you sell a range, you are promising your cus-
tomer accurate performance. We want you to know how careful
we are to support you in delivering that accurate performance.

Years ago, Wilcolator engineers first developed the liquid-
expansion type oven thermostat now universally used. Ever
since, we have jealously guarded the reputation of our instru-
ments by the most thorough succession of precision tests to be
found in the industry—tests far exceeding the most severe ser-
vice they will ever get in your customer's kitchen.

You'll have mighty few calls for service on Wilcolator-con-
trolled ranges. We make sure of that before the thermostats
leave the factory.

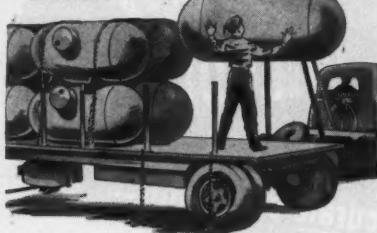


1001 NEWARK AVENUE, ELIZABETH, NEW JERSEY

15,000,000 units ago Wilcolator first helped the cook out of the kitchen

NOW—PROMPT DELIVERY OF BURNHAM PROPANE SYSTEMS

In Burnham
Trailers



This quicker, more dependable delivery avoids expensive handling at destination. It eliminates the possibility of transit delays or possible damage associated with other type shipments.

The superior quality of Burnham engineered tanks plus the economy of truck deliveries direct from the factory gives you an opportunity to save that's well worth your consideration. Why not take advantage of it?

BURNHAM LPG TANKS

Available for immediate shipment — 15 sizes — either top or end mounted in capacities from 250 to 1,000 gallons.



Burnham Corporation
TANK DIVISION • IRVINGTON, NEW YORK

*Note to ad dept.
Write ad for B-P NEWS
on our ROSKOTE
FOOTRING MASTIC*

*Tell how Red Primer
#4452-A inhibits rust
and about the tough
moisture barrier ROSKOTE
provides — with long life
added to L.P. gas cylinders,
as proven by inspection of
cylinders coated 3 yrs. ago.
Don't forget to offer samples.
(We need distributors, too)
J.H.R.*

ROYSTON LABORATORIES, INC.
Box 112-B, BLAWNOX, PA.

Sixty men, including approximately 36 out-of-state representatives, participated in the intensive educational and sales training program. The meeting included new product discussions and demonstrations as well as inspection of the latest manufacturing methods.

The five divisions of the sales department represented at the meeting included pressure bulk storage, L. P. gas and anhydrous ammonia systems, machined products, packaged compressor plants and the steel warehouse.

Materials Handling Show Scheduled for May, 1955

The next Materials Handling Exposition will be held in Chicago the week of May 16, 1955, it was announced by Clapp & Poliak Inc. of New York, the firm which founded and produces the event. The show will be at the international amphitheatre and the new exhibition hall, now under construction.

The exposition, with a theme of "The Concept of Obsolescence," will show approximately 5000 machines needed for the modern automatic factory.

Servel Cuts Prices on Heaters, Refrigerators

Reductions of \$10 to \$50 in the suggested retail prices on gas refrigerators and \$3 to \$13 on automatic gas water heaters have been announced by Servel Inc. Price changes reflect the recent revision of federal excise taxation. Many companies, in addition to Servel, have reduced their retail prices.

Overseas Business Conditions Studied

Charles W. Guy, executive vice president and director of the export department of General Gas Corp. and Delta Tank Manufacturing Co., will study overseas business conditions this spring as a member of the New Orleans International House trade and travel mission to Europe.

The mission will make an extended visit at the British Industries Fair in London and Birmingham, following stops at other major European trading centers.

Moonshining? Use LPG

A moonshiner near Paris, Texas, was recently picked up by the liquor board for distilling a batch of wild-cat whiskey. The man was cooking with butane. Maybe because it doesn't make a smoke signal.

**Key to
EFFICIENCY**

BARBER
slotted-cap JET

Barber Burners equipped with the famous Barber "slotted-cap" jets are available in round, oblong, and square shapes with inputs of 7000 to 198000 B. T. U.

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Barber Gas Burner
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**Makes
JOINTS
LEAKPROOF!**

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SEALING COMPOUND**
Makes all assemblies
leakproof and pressure-tight!

**7 BASIC BLENDS for
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requirement.**
Heat-proof, non-sol-
vent, will not shrink,
crack or crumble.

Ask your distributor
or write us for information

**BRUSH-ON
TiteSeal
LIQUID TYPE
NON-HARDENING
GASKET & JOINT
SEALING COMPOUND**

RAMIATION SPECIALTY CO.
1700 Dowd Road
Cincinnati, Ohio

Oran presents the new peak performance

90,000 BTU input—67,500 BTU output

FULLY AUTOMATIC, SHALLO-WELL,
GAS-FIRED FLOOR FURNACE
WITH FORCED AIR CIRCULATION



- Built-in air circulation fan gives maximum heat output.
- Exclusive Oran auxiliary cold air returns (optional) increase circulation of heat, even in hard to heat areas.
- 100% safety shut-off valve with 100% automatic operation—all controls completely installed, including automatic fan switch, automatic limit switch, silent operating automatic gas valve with thermostat and transformer.
- Unique, Oran all-steel burner gives clean, hot flame—the result of years of engineering research. Rated at 90,000 BTU input—67,500 BTU output.
- Compact size with beautiful baked enamel outside finish for eye appeal and sales appeal.



Oran also manufactures three other models of Shallo-Well, gas-fired floor furnaces, rated at 80,000 BTU, 60,000 BTU and 40,000 BTU inputs. This complete range of sizes will meet climatic conditions almost anywhere in the United States.

WRITE US FOR DETAILS ON THE
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COMPANY

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JUNE, 1954



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15 strong selling features
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AUTOMATIC WATER HEATERS

For LP Gas

Water Heating Specialists
Since 1930
AN EDWARD LAMB ENTERPRISE

Liquid LPG To Be Sold By Volume, Weight

Liquefied petroleum gas in liquid form must be sold in California either by volume or by weight, regardless of quantity, dealers have been warned by J. E. Brenton, chief of the Bureau of Weights and Measures.

Mr. Brenton's advice was directed especially to "certain dealers" who sell small quantities of LPG—5 gal. or less—for a minimum charge, regardless of the actual amount sold. "These small containers," he said, "are filled to the outage valve without any credit being given for such quantity of liquefied petroleum gas as might have been in the container at the time of filling. No attempt is made to ascertain the weight or volume of the liquefied petroleum gas being sold, and on cylinders not provided with an outage valve, no attempt is made to prevent either under- or over-filling."

In issuing the warning, the bureau chief cited pertinent sections of the California administrative code as follows:

Section 3417, Units of Measurement, Article 16, Liquefied Petroleum Gas, Chapter 8, Title 4, reads as follows:

"3417. Units of Measurement. (a) Liquefied petroleum gas shall be sold by weight expressed in terms of avoirdupois pounds and ounces, or by liquid volume expressed in terms of the United States gallon consisting of 231 cu in., or, by vapor volume expressed in terms of cubic feet. . . ."

The definition of the phrase "sale by weight" is contained in Section 3414 of the code applicable to liquefied petroleum gas and reads as follows:

"3414. Sale by weight means that the amount of content of the vessel has been determined by weighing the vessel and its contents before and after filling."

The definition of the phrase "sale by liquid volume" is contained in the provisions of Section

3415 of the code applicable to liquefied petroleum gas and reads as follows:

"3415. Sale by liquid volume means that the amount of the liquefied gas in the container has been determined by the volume of the commodity delivered into the container through a liquid measuring device which has been properly sealed in accordance with the provisions as contained in Section 12505, Chapter 5, Weights and Measures, business and professions code of the state of California, or by use of a vessel or container used as a measure, the capacity of which has been determined and certified by a weights and measures official.

"In a few instances this may mean that the dealer must provide himself with either a weighing or measuring device of a type approved and sealed by a weights and measures official," said Mr. Brenton.

"If the liquefied petroleum gas being sold from any place of business is used as a motor fuel, each dispensing device from which the fuel is being sold must have displayed a sign showing the actual total price including taxes per gal., which sign shall conform in all respects to the provisions as contained in Article 6, Prices, Chapter 7, Petroleum, Division 8, business and professional code.

"It is also our recommendation that in cases where the dispensing device is used for service in connection with the filling of small cylinders that the dealer post his retail price or prices in plain sight so that the buyer may have full knowledge concerning the price that he is to pay and that the price actually paid by the buyer is in accordance with the unit price as posted. However, as noted above, if the liquefied petroleum gas is being sold for use as a motor fuel, the posting of the price, including taxes, is mandatory."

All Homes Air Conditioned in 5 Years, Says GAMA

Most—if not all—homes built in the United States five years from today will be equipped with year-round air conditioning.

That's the consensus of a survey conducted by the air conditioning

division of the Gas Appliance Manufacturers Association which indicates that the all year air conditioned home has a substantially greater resale value than a comparable house without such equipment.

Eighty two per cent of the homemakers queried by the GAMA pollsters reported that "air conditioning

substantially increases the value of my home," while 17% said that the gas system makes the home "somewhat more valuable."

Talks with housewives in 10 major population centers evoked these important reasons why all-year air conditioning improved their living habits: 90% said that less time was needed for dusting furniture; 71% reported they did less cleaning of walls and woodwork; 70% reported less frequent cleaning of drapes, curtains, slip covers, rugs and upholstery, and 31% said that less redecorating work was needed. Cleaning bill savings alone ranged up to \$300 a year.

The homeowners, all of whom had had gas equipment installed for a minimum of three years, decided that all year air conditioning had contributed materially to their comfort. Among their reasons were: Outside noise eliminated because windows are kept closed; plants grow better indoors; homemaker able to bake and iron in comfort during summer; more ambition of entire family during summer; fewer flies and bugs in home; no stale odors in home; basement dry all year, and furs do not need to be placed in special storage.



Electric Range Servicing Held Big Business

Electric range servicing has become a big business and is growing bigger all the time, according to a spokesman for the Philco Corp. He pointed out that servicemen should not overlook this phase of their business.

Citing a survey made by a large utility company, the Philco spokesman pointed out that approximately 139,999 service calls were made during the year. Some 200,000 electric ranges were in use in the utility's territory, it was said. In 1949, in excess of 400,000 parts with a list price of over \$700,000 were installed in these ranges, the survey revealed.

A partial breakdown of the survey disclosed that 18,000 new switches were required, as compared to 73,000 surface units, 58,000 pilot lights and sockets, 9000 thermostats and 5000 timers.



Butane-Propane

POWER SECTION

INSTALLATION • CARBURETION • SERVICING



Mistletoe Express maintains its own service station at the Oklahoma City garage.

(For a story about Mistletoe Express and its conversions to L. P. gas, turn to page 136)



Fred Ward, maintenance supervisor for the Mistletoe Express, has devised minute checks for every phase of the maintenance program, like this one which simply but effectively makes sure that each line haul truck is refueled every time through the Mistletoe terminal.

MISTLETOE Express, of Oklahoma City, saves almost \$15,000 a year on the operation of 17 trucks as the result of a program to switch the operation of all of the firm's line haul units to LP operation.

Savings made possible through LPG conversions come to approximately 1½ cents for every one of the 2½ million miles a year travelled by the Mistletoe main line units.

It should be emphasized that these figures do not represent either a long-range projection or wishful thinking in any form. Fred Ward, maintenance supervisor for the Mistletoe fleet, has standardized 100% on L. P. gas for his line haul units for a full 19 months. His firm's experience includes more than 4 million miles of operation over the Oklahoma and North Texas country side.

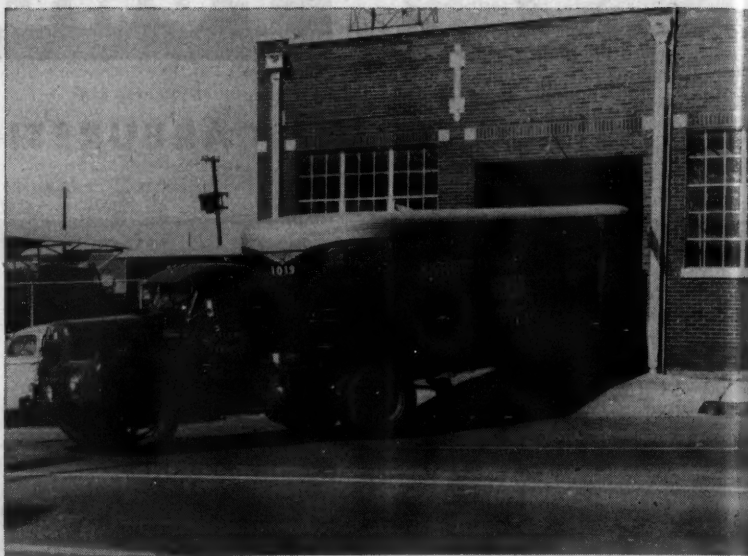
This record is even more impressive when considering that in 1953, Mistletoe extended to 22 full years its record of continuous operation with a minimum of road breakdowns due to mechanical failure.

This degree of trouble-free operation is an absolute must under the Mistletoe program. Established in 1931 primarily for the distribution of a newspaper, the *Daily Oklahoman*, the firm still functions as a subsidiary of the Oklahoma Publishing Co. However, through the years, express shipments of other merchandise have multiplied so fast that newspapers now make up only 5% of the firm's total volume.

Stemming from its newspaper delivery origin, the firm has maintained

Mistletoe Express Saves \$15,000 a Year With LPG

By Benedict Kruse



The Mistletoe line haul units are tailored for the high speed work at hand. They are short enough to fit into tight city pickup docks, but also heavy enough for over-the-road work.

a policy of strict time-table operation for its deliveries; schedules are undoubtedly among the most strictly adhered to of any common carrier.

Roughly 92% of all Mistletoe shipments originate in or are destined for Oklahoma City. Distribution is channeled through a series of intermediate shipping and relay stations linked to the main terminal by twice daily service, six days a week, by Mistletoe's line haul tractor-trailer units.

The units in this line haul fleet are 2½-ton tractors pulling 30-ft, single-axle, van-type semi-trailers. The trailers are standard van units with 16 in. cut off the top to provide the necessary clearance to get them into newspaper loading docks. The trailers are also equipped with doors on both sides as well as in the rear to facilitate the transferring of shipments and the handling of peddle runs. Average payload on line haul runs is 20,000 lb; gross weight is 39,000 lb. The line haul units make two trips daily averaging 250 miles each. Some units in the fleet clock

in 3000 miles a week regularly. Running this kind of mileage with no allowance for breakdown calls for the highest type of a precision maintenance program.

However, as busy as these line haul units are, their operating schedule fits in pretty ideally with a sound maintenance program. Time schedules for their runs are geared to coincide with the edition times of the papers. In this way, there is an interval of four hours between runs in which Supervisor Ward is able to bring them into the garage for maintenance work.

The trucks are checked through the Mistletoe garage, where some maintenance function is performed, after every trip. Every time a line haul unit reports in from the road, its first stop is the filling station, where its fuel tanks are brought up to maximum allowable capacity. Although each truck carries enough fuel for two round trips, it is a standing policy to fill them every time in. Supervisor Ward has devised a simple but effective check board to make

sure this program is carried through.

After fueling, the trucks go through the garage for a routine, assembly line type of checkup. Schedules are kept to make sure that each unit is lubricated at least once every day. The lube jobs are staggered so that some are done in the morning and some in the afternoon. A routine maintenance inspection and safety check, however, is performed every



Careful routine inspections daily and full tuneups every 10,000 miles are the key-note to Mistletoe's successful maintenance program. This is a view of the special Ellis manifold which keeps the fuel cooler, ups mileage approximately 5%.

12 hours on each road vehicle. This includes a check on brakes, lights, steering, batteries, tires, horns, etc.

Every 10,000 miles, about once every three weeks under Mistletoe's normal operation, each line haul truck is brought in for a complete tuneup. This includes a minute check of all operating features of the truck—carburetion, ignition and mechanical functioning. This 10,000-mile check is designed specifically to eliminate road failures. This is when the Mistletoe mechanics catch bad spark plugs, carburetor adjustments, worn wheel bearings, alignment, tire wear or defects, and the dozens of other things which can make a truck quit suddenly.

At 150,000 miles, the average LPG-operated engine is ready to have its valves ground. A major engine overhaul, which Fred Ward classes as a job where the pan has to come off, has never been required on any of Mistletoe's LPG-operated trucks. Mistletoe keeps its line haul units for a minimum of 400,000 miles, putting an average of three valve jobs into each LPG-operated tractor.

The best idea of how good this operating program really is can be had by comparing today's practices with what Mistletoe used to do when their line haul fleet ran on gasoline.

Costs for crankcase oil are now less

than half. With butane, Mistletoe changes at 7000 miles. With gasoline, changes used to be made at 3000 miles.

When a gasoline truck hit 100,000 miles, its engine had to be taken out and rebuilt. With L. P. gas, as stated above, the engines just need valves at this time.

In order to establish what he felt was a necessary safety margin, Mr. Ward used to insist on changing carburetors on his gasoline trucks every 25,000 miles. The cost for this was estimated at \$40 every 100,000 miles. The corresponding operation on a butane engine is the replacement of a throttle shaft bushing at 100,000 miles. This costs 65 cents.

For the same security reason, Mr. Ward's program called for the changing of fuel pumps every 10,000 miles



By operating its own L. P. gas filling station, Mistletoe saves an estimated \$7000 a year and also gets better quality and volume control in refueling.

on gasoline engines. In this respect, material savings alone cut his costs by \$80 for every 100,000 miles.

Formerly, 10,000 miles was Mistletoe's allowable limit on spark plugs. Their unit now gets 20,000 miles.

Strange as it may seem, even tire wear has improved considerably since the fleet switched to L. P. gas operation. In 1953, Mr. Ward reports his tire costs were down 1 mil per mile. He accounts for this with the explanation that LPG units do not accelerate as fast as those driven on gasoline. This means that the pull on the tires is more even and that the spurts which wear into the rubber are eliminated.

All of the above, it is important to note, is qualified by the fact that Mistletoe operates in a territory in which there is a distinct price advantage to L. P. gas over gasoline. The cost of gasoline averaged 21 cents per gallon as compared with 12 cents for L. P. gas. As a rule, operators

figure on 10% less mileage on L. P. gas, but Mr. Ward reports he has been able to bring his converted engines to almost equal mileage through special care in rebuilding the engines to handle the gaseous fuel. Fuel mileage on Mistletoe units loaded to an average gross weight of 39,000 lb around 5.6 miles per gal.

To get this kind of performance, Mr. Ward accounts for the special properties of the fuel in his conversion of new gasoline units. All conversion jobs are done right in the Mistletoe garage. This firm does not buy factory-equipped LPG units.

Mistletoe-converted units are increased from a 6.5 compression ratio to 7.4. High dome pistons are the chief factor in this buildup. Other changes include the installation of dual points in the ignition system, an Ensign carburetor, two 60-gal. saddle tanks which can be loaded to a maximum of 50 gal. each. Another important feature is the installation of an Ellis manifold, which keeps the engine cooler and steps up fuel mileage by approximately 5%.

Some idea of the ultimate of what can be accomplished in a properly supervised LPG conversion program can be seen in the operation of one engine which was set up on a guinea pig basis under an agreement between Mistletoe and International Harvester. The original agreement called for 200,000 miles of operation without removing either the head or the pan from the engine. But, at this point, Mr. Ward felt it was doing so well that he wanted to keep on going. It was still in perfect operating condition at 312,000 miles, but Mr. Ward finally consented to remove it because the International people were anxious to get it up to their laboratory for a "post-mortem."

These records apply to line haul units. The firm, of course, operates many more trucks in its city deliveries in Oklahoma City and Tulsa. Mistletoe city units get such rough stop-and-go wear that they do not last long enough to make conversion worthwhile. As it is, the engines outlast the bodies on these trucks. This in itself takes the incentive out of eliminating engine wear. Mistletoe experience here showed that the cost of conversion was higher than the savings which could be realized. But on line haul units, Mistletoe is all for LPG.



Converted John Deere tractor that broke land for 12 cents per acre. The owner, Neal Thompson, left, and Matt Dial, National Butane Co., right.

Winter Fuel to Spare? Sure! Tractor Carburetion Does It

By Carl Abell

FIVE years ago the National Butane Co., Mobile, Ala., was having the same problem of summer-winter load balance that was bothering nearly all other L. P. gas distributors. Three years later, after getting an active tractor conversion program under way, National Butane had corrected the ratio to the point where the company was able to turn over part of its winter allowable to other operators.

National Butane Co. operates eight branches in southern Alabama, lo-

cated at Robertsdale, Monroeville, Selma, Evergreen, Cullman, Huntsville, Opp, and Jackson. Robertsdale and Monroeville are unusually well situated for tractor conversion activities as they are located in areas having rich alluvial soil, much of which is owned in acreages large enough to support from one to 20 or more tractors per farm. Since the region has an exceptionally long growing season, tractor fuel consumption runs high for that part of the world, averaging 2000 gal. per tractor per year.

While some power operations are carried on throughout the year, the major crops call for spring and summer cultivation, with a preponderance of fuel consumed during those seasons.

Leading crops are white potatoes, soy beans, corn, and pasture. There are also a number of big operations growing special crops, such as a nursery specializing in azaleas and camelias, which uses 14 converted tractors, and a 300 acre gladiolus farm using six LPG tractors.

While tractor conversion has been

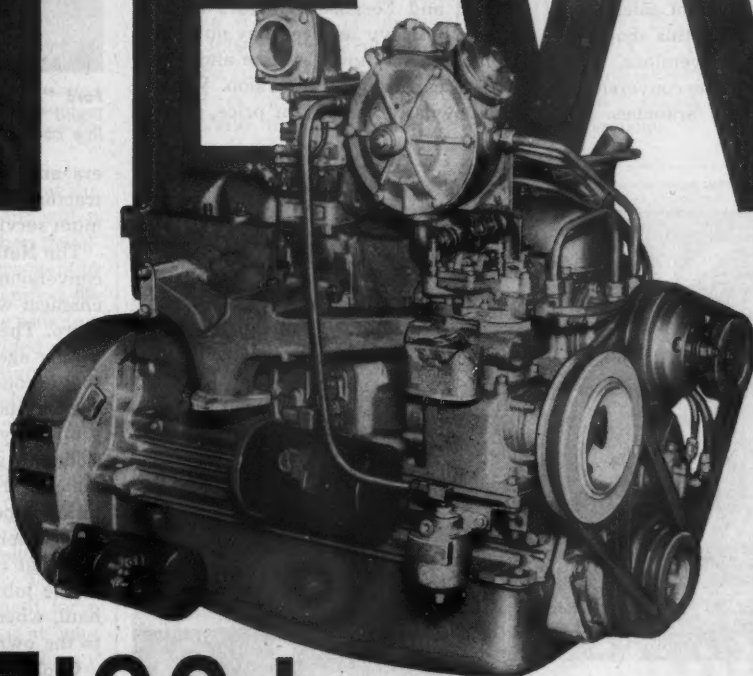


C. E. Hankins is proud of his Oliver "88," converted at the local Oliver agency, using factory carburetion kit and special Deep South fuel tank.



5-year-old Case DC, which ran 4½ years before it was overhauled and high compressed. Same owner has converted Ford Jubilee and Farmall H.

NEW



REO 160 h.p. LP GAS ENGINE

Reo Tractors with the New 160 hp Super Gold Comet LP Gas Engine are natural for Hauling LP Gas Bulk Trailers.

Here is the outstanding and economical power you've been looking for—Reo's new OH-160 Super Gold Comet for LPG. From waterpump to flywheel, this sensational new Reo Super Gold Comet has been engineered specifically for liquefied petroleum gas operation and for nothing else! Clean burning LPG has many characteristics that make it the power champ of low cost fuels. Reo's new 160 hp Super Gold Comet for LPG takes full advantage of

these characteristics. This is no warmed-over gasoline engine, but a new power plant that squeezes every last ounce of power from every last drop of fuel.

Now...REO Offers a Complete LPG Line

3 great engines designed specifically for LPG are now available in Reo Trucks or as replacement power: the 100 h.p., the 142 h.p., and the 160 h.p. Super Gold Comet. Write REO today!

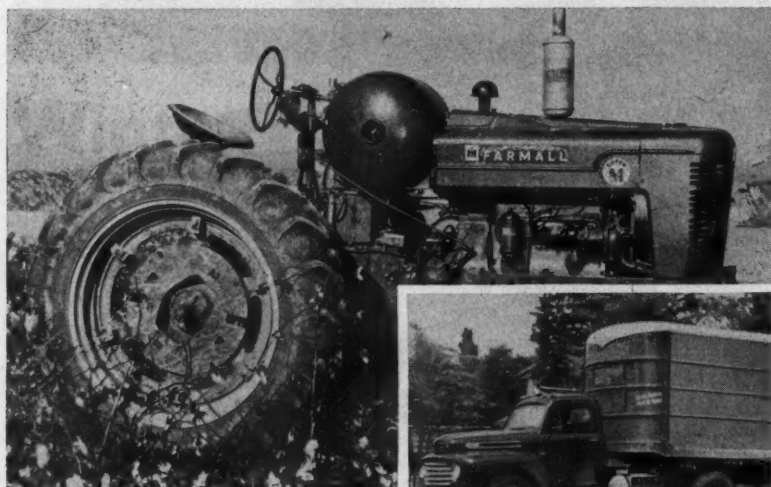
REO MOTORS, INC., Lansing 20, Michigan

actively practiced at all eight branches, it has reached its highest peak at Robertsdale. At this branch a conversion shop is maintained, with a full time mechanic who handles conversions for Robertsdale and Monroeville. More than 400 tractors have been converted in this shop, the majority of which have been sold by Matt Dial, in charge of sales at the branch. During 1953 this shop made more than 100 conversions, which was comparable to the conversions at all six of the other branches.

The earliest conversions made by the National Butane Co. were of the vapor withdrawal spud-in type. It soon became apparent that liquid withdrawal systems would be needed for tractors working on winter plowing, which is commonly practiced in this area. For all large tractors and the Farmall C, and for the Ford and Ferguson tractors in unusually heavy service, they now recommend the liquid system and complete carburetor conversion. Where the owner holds out for price, adapt-



Ford "Jubilee" tractor with front tank, liquid fuel system, and spud-in at gasolene carburetor.



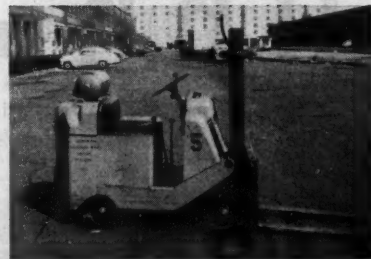
MANCHESTER LPG TANKS

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LPG tanks for *all types* of mobile equipment are our business. Our years of job experience with every conceivable conversion problem have resulted in a wealth of standard models "made to order" for your equipment. We save you money, not by cheapening the tanks, but through faster and simpler conversion, greater operating convenience, and unmatched operating safety. Write for the design and general information chart, including tables for figuring tank capacities.

The new Manchester ditch bank burner saves up to 40% on ditch bank maintenance. Inquiries from good dealers are invited.



ers and spud-ins are used on light tractors that are in less than maximum service.

The National Butane Co. shop is a conversion shop only. No other mechanical work on tractors is done there. The heavy overhauls go to the tractor agencies and garages, and on this account very friendly relations are maintained with the other shops. While they recommend high compression to get maximum benefits from the conversion, it is only done at the time of the conversion if the engine is then being overhauled. Otherwise, National recommends that this part of the job wait until the next overhaul, when part of the cost is saved to the owner.

Cooling of intake manifolds is regarded as an important part of the conversion that will not wait. When available, cool manifolds produced by the manufacturer of the engines are recommended. If these can not be had, such other arrangements as are expedient are generally made. In some cases this may be a manifold from an independent factory, or it may just be a shop surgery operation, cutting the existing manifolds apart.

There are certain aspects of the tractor fuel tank which are not yet worked out to the satisfaction of everybody concerned. LPG tanks can not always be mounted in the conventional fuel tank location, above and behind the engine, without considerable cutting and welding. If the farmer who owns one of these fitted-together conversions wants to trade it in later and retain his LPG equipment for the next tractor, which was a frequent occurrence in the past, it becomes an expensive job to remount the gasoline tank and restore the original appearance of the tractor.



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NEwmark 1-9357 or NEvada 6-2839



Ford "6" tractor with LPG tank mounted in hood, and outside regulator mount—practical because tractor is only used for open field work.

To handle this problem, and at the same time hold down costs and widen the market, the National shop developed a set of lightweight brackets to permit installation of a modified 60-lb ICC cylinder ahead of the radiator. These cylinders are provided with four openings, into which liquid and vapor service valves, a standard filler valve, and a vapor return valve are inserted. The vapor valve is equipped with a fixed liquid level indicator, so filling may be done without removing the tank for weighing. The pressure relief valve is an integral part of the vapor service valve. The capacity of the tank is sufficient for a full day of light work, but it may require two fillings for a day of heavy work like plowing. Where it is anticipated that such a filling schedule will result in inconvenience it is the shop's practice to use larger tanks mounted in the conventional location.

There is considerable variation in customer storage tanks in the National Butane Co.'s service area. There are a good many underground tanks which require special adaptation to withdraw liquid at the speed required to fuel tractors. Some aboveground tanks have bottom outlets, which make the simplest possible means of transferring fuel. In others, the only outlet is through the top. Some customers use special liquid withdrawal adapters, taking the fuel out through the filler valve. On the later tanks, B & B multivalves with 3/4-in. liquid outlets are now being used. The lack of uniformity of these tanks and withdrawal methods is largely due to the fact that National Butane Co. does not lend or lease any tanks; they all belong to the farmers, who, while most of them are doing better now, have a long and honorable history of careful buying.

National's bulk delivery trucks are

of the twin tank type, which makes it possible to properly service the tractors with the two fuel withdrawal systems. The vapor jobs must have propane; they will not operate properly on cool days on anything else. Those with liquid systems do better on the same mixed fuel that is consumed in the farmers' domestic appliances. There are not many of the vapor jobs still in service, but they must be supplied, and this makes a problem for the dispatcher at the bulk plant. In the course of a little

time they hope to retire or convert the remaining vapor system tractors, so it will be possible to use the mixed fuel exclusively.

In discussing the problems encountered and lessons learned in his company's conversion program, Matt Dial emphasizes a number of important points. The first step, he says, is to convert the company's delivery trucks. Your recommendation that LPG is a better fuel can not be taken seriously unless you use it in your own vehicles.

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LP-GAS CARBURETOR



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*Cutaway view of
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No wonder Cockshutt has joined the growing list of tractor, truck and engine manufacturers who are increasing satisfied customers by factory installing Century LPG Carburetors! Get the facts—write for Bulletin No. 153.

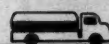
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CENTURY

- ★ SET IT!
- ★ SEAL IT!
- ★ FORGET IT!



LP-GAS CARBURETION



Never oversell a job, and never promise miracles. You must live with these customers, and the only way to retain their business is to tell them just the truth, or a little of an understatement. Then when their personal experience shows that the conversion is better than you promised, you have a customer who is more than satisfied—he is delighted.

Always give the customer complete

instructions about how to start and operate his engine on LPG, and be sure that he gets the habit of turning off the fuel at the tank valve when the tractor is not in use—overnight or longer. This avoids a prevalent cause of hard starting, and sometimes saves fuel and prevents fire hazards.

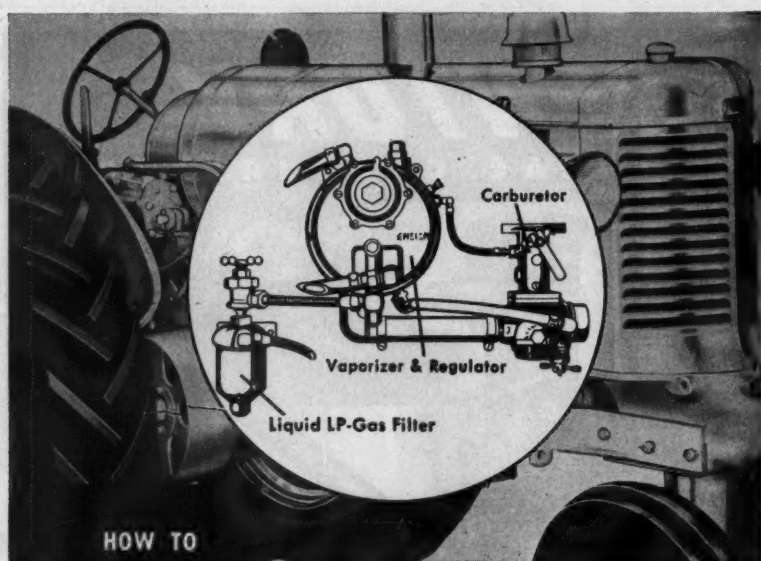
The owner of one tractor is prouder of that piece of machinery than of anything else on the farm, sometimes

including his wife and family. That being the case, it is obvious that the conversion job should be neat and professional in appearance. The tank should look like it is part of the tractor, so it should be painted to match. All tubes and hoses should be cut to length, mounted as neatly as possible, and anchored in position. This is a safety precaution as well as an improvement in appearance.

The most serious shop problem, according to Mr. Dial, is keeping an even flow of work through the shop. In spite of the best sales efforts and "slack season conversion" promotions, there is more volume at some seasons than at others. They have partially overcome this problem by making up preassembled conversion kits for their more popular tractors during the periods when other work was slack. These preassembled kits are made up on the bench as completely as possible, even to cutting the copper tubing to the correct length, putting on the nuts, and flaring the ends. This practice not only smooths out the work schedule, but it also saves a great deal of time in making the conversions, giving the customers better service and making the peaks less critical.

There are no serious customer service problems with these tractors. By actual records, 400 water heaters will require more hours of service work than 400 tractors, if the installations are properly made and if the customers have been thoroughly instructed from the start and then followed up to see that they understand what they were told. And the most fruitful source of leads, Mr. Dial finds, is these follow-up calls. Farmers are just like anybody else—they like to have attention, and they prefer to do business with people who show personal interest in their problems. And they recommend the people that they like.

The National Butane Co.'s tractor conversion program was undertaken to balance the winter-summer load ratio. It accomplished this objective in three years, according to the company's general manager, Horace T. Spottswood. The program is being continued as a builder of volume and profits on gas service, and for direct profit on the conversions.



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Best tractor performance on LP-Gas is the result of air-fuel ratios for combustion which are exactly right for every operating condition. For example, air-fuel mixtures for starting are entirely different from those required for full load or for long periods of idling.

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Better roads mean a better America

INTERNATIONAL TRUCKS

"Standard of the Highway"



Aerial view of Phillips Petroleum Co.'s service stations on north and south lanes of Turner Turnpike at Stroud, Okla. Philgas motor fuel is now sold at both these stations.

Philgas Installs LPG Dispensers at 25 Highway Service Stations

ONE of the limiting problems in connection with conversion of long-distance trucking fleets to L. P. gas has been that of fuel supply en route. Service stations equipped to supply LPG to passing truckers have been relatively infrequent. There have been long gaps between stations with dispensing facilities even on major transcontinental highwasys, and only a few of the stations that can provide the fuel offer immediate service throughout the 24 hours. A trucker on a tight schedule does not want to wait 30 or 40 minutes for a service station operator to get out of bed and come down to fill his tank. He wants to get gas and the accompanying services immediately, and be on his way.

One of the hopeful signs that the industry is working out the solution to this problem comes from the recent announcement that Philgas is installing dispensing facilities in 25 Phillips service stations scattered throughout the company's marketing area. This is part of the company's long-range program to broaden the distribution of fuel so it may be available to fleet operators beyond the

range of their own refuelling facilities.

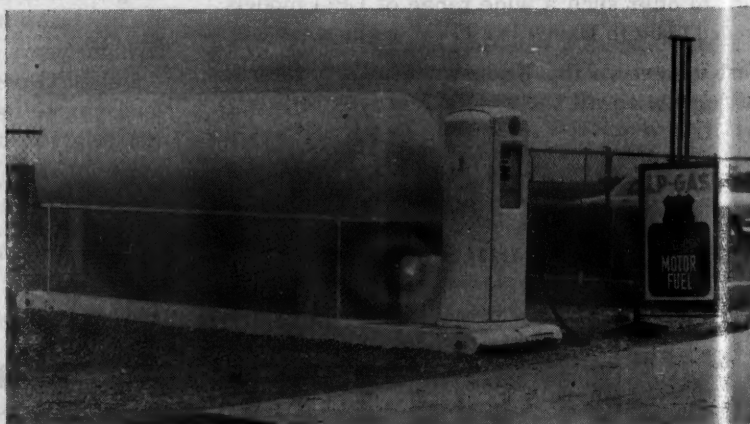
The stations included in the present installation program have been selected in relation to such factors as truck traffic along the routes, the need for filling gaps between existing stations offering 24-hour service, convenience to intersecting north-south and east-west highways, and the many other considerations which

may be expected to influence the success of the undertaking. Where possible, stations already handling a substantial volume of truck traffic on a 24-hour schedule are being selected for the location of the LPG dispensers. Locations picked are in the states of Kansas, Nebraska, Iowa, Illinois, Missouri, Oklahoma, and New Mexico.

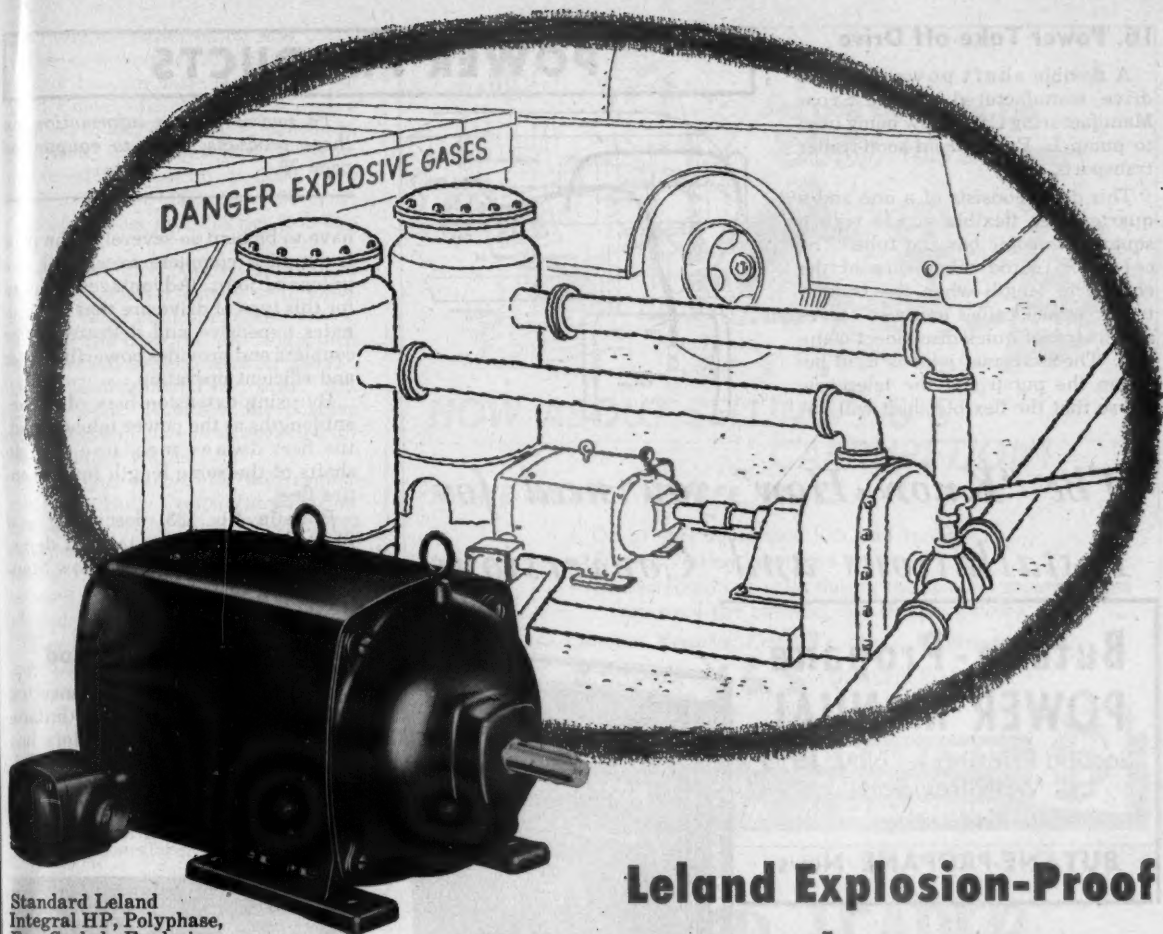
Most of the installations consist of the Beaird packaged LPG filling station unit. This is skid-mounted, and is complete with storage tank, electrically operated pump, and Texoil computing type dispenser. This installation can be made in the time it takes to level a spot large enough to take the unit and make the necessary electrical connection. With a 999 water gal.-capacity tank, the unit is sufficiently large to handle the gallonage now in demand at most of the selected stations. As volume increases to the extent that larger storage is needed, the portable packaged equipment can be transported to new locations, thus serving successively in pioneering and developing the need for permanent facilities at a number of locations.



Philgas motor fuel dispenser installed at one of the Turner Turnpike stations.



Closeup of the complete service station dispenser, with Philgas curb sign "to let the truckers know."



Standard Leland
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Fan-Cooled, Explosion-
Proof* Motor


Leland Explosion-Proof Motors power the pumps that move volatile liquids!

At hundreds of thousands of points in the nation's far-flung petroleum distribution system LELAND explosion-proof* motors supply safe, dependable power to pumps handling volatiles.

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*Underwriters' approved
for Class 1, Group D
hazardous locations

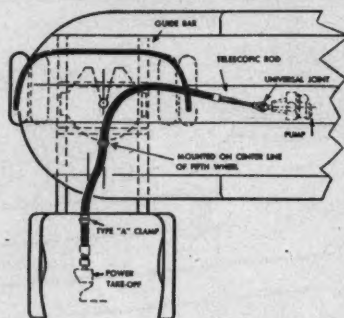
JUNE, 1954

145

16. Power Take-off Drive

A flexible shaft power take-off drive, manufactured by the Stow Manufacturing Co., is now being used to pump L. P. gas from semi-trailer transports.

This drive consists of a one and a quarter inch flexible shaft with a square telescopic bar and tube. The telescopic rod takes care of the change in length when the tractor-trailer is jackknifed and also serves as a foolproof quick-disconnect coupling. The universal joint is used between the pump and the telescopic rod so that the flexible shaft will not



POWER PRODUCTS

To secure further information on these products, refer to coupon on page 79.

have to be bent so severely. The unit is supplied complete except for the universal joint. Advantages claimed for this type of drive are that it eliminates expensive and delicate power couplers and provides powerful, quiet and efficient operation.

By using extension bars of different lengths at the power take-off end, the fleet owner may use flexible shafts of the same length for his entire fleet.

Bulletin No. 533, describing and illustrating the power take-off drive, may be obtained from the Stow Manufacturing Co.

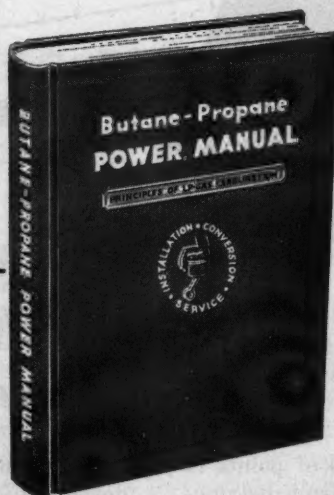
The "Know-How" you need for Installations and Conversions

Butane-Propane POWER MANUAL

Second Printing — Nov. 1953
With Revisions

Published by

BUTANE-PROPANE News



Here is the first authoritative guide ever published for the rapidly expanding LPG power market. Basic facts of engines, fuel, and power are given in easy-to-understand language; then careful directions and clear illustrations take you step-by-step through installations, conversions, servicing... everything needed in a practical working manual for practical men. Nearly 5,000 copies of the BUTANE-PROPANE POWER MANUAL have already been sold.

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OUTLINE OF CONTENTS

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| 2. Basic Engine Facts | 14. Tractor Conversions |
| 3. Basic Facts of Fuel Combustion Engines | 15. Truck and Bus Conversions |
| 4. Factors Affecting Operating Economy and Power | 16. Passenger Car and Taxicab Conversions |
| 5. L. P. Gas Carburetion Systems | 17. Industrial Engine Conversions |
| 6. Regulating Gas Pressure and Temperature | 18. Installing and Adjusting L. P. Gas Carburetion Systems |
| 7. Fuel Supply System. Vehicle Tanks and Equipment | 19. Manufacturers' Instructions for Adjusting L. P. Gas Carburetors |
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| 11. Raising the Compression Ratio | 23. Selling L. P. Gas Carburetion Appendix (including Definitions) |
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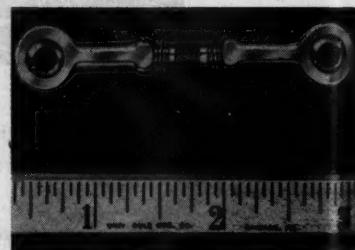
We pay postage on orders accompanied by remittance. Orders from individuals must be accompanied by amount of purchase unless credit has been established.

BUTANE-PROPANE News, 198 S. Alvarado St., Los Ang. 57, Cal.

17. New Connecting Rod

A new precision built connecting rod for machinery linkage or butane and gasoline engine carburetors has been announced by Avalon Machine Products Inc. of Los Angeles.

These rods come in sets and are equipped with both left and right



hand threads. They have spring lock adjustments or lock nuts. A ball and socket type, they make perfect alignment possible.

The connecting rod is adaptable for any type carburetor application. Bolt hole sizes range from 3/16-in. through 5/16-in., while a variety of lengths may be had.

18. New Reo LPG Engine

Production of a new 160 hp Super Gold Comet engine, designed specifically for use with liquefied petroleum, has been announced by Reo Motors Inc.

Described by A. L. Struble, Reo's vice president in charge of truck sales, as "the most efficient and economical power plant in its class," the new Reo OH-160-LPG engine has a compression ratio of 8.2:1. It is the third

LPG engine marketed by Reo.

The new engine, Mr. Struble reported, has the basic features of the Gold Comet OH-160 gasoline engine such as block, crankshaft, camshaft, and head. It also develops the same power—160 gross hp at 3200 rpm; 143.5 net hp at 3200 rpm; 290 gross ft-lb of torque; and 276 net ft-lb torque.

"We have incorporated in the head the same special intake seat valve inserts, valve guides, exhaust valves, pistons, and cast iron top ring which have proved so successful on the 331-OA-LPG announced last year," Mr. Stuble said. "Rotocaps for positive valve rotation have been specified for the exhaust valves."

An Algas carburetor and regulator, and a Holly Centri-Vac governor are standard. The same 54.6-gal. LPG tank, safety relief vent pipe, fuel filter, and outside-mounted air cleaner as used with the 331-OA-LPG are included.

The entire line of Comets, including this newly designed L. P. gas model, give high horsepower from relatively small displacement.

19. LPG Tanks for Fork Lifts

Manchester Welding & Fabricating Co. has LPG fuel tanks for fork lift truck conversions. Seven different



size tanks are being manufactured.

Popular models include sizes from 9- to 14-in. diameters. Any size is made to customer's specifications.

All tanks are fabricated to conform to Pamphlet No. 5, Division 4, on motor fuel tank containers.

Federal Tax Change Affects L. P. gas Industry

The method of handling the federal gasoline tax in its application to L. P. gas motor fuel usage has been changed to eliminate present tax collecting and refund procedures, and the need for exemption certificates. Sales of L. P. gas for use on a "motor vehicle,



HOW ABOUT SELLING J & S CARBURETION!

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- On LP gas conversion kits and tanks.
- On installation labor and tune-up.
- On increased gas sales during the summer months, when you need the business and the gas volume.

— Convert Trucks, Cars, Tractors, Engines —

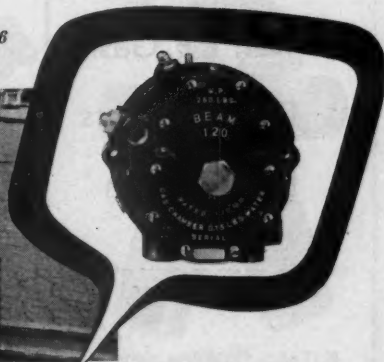
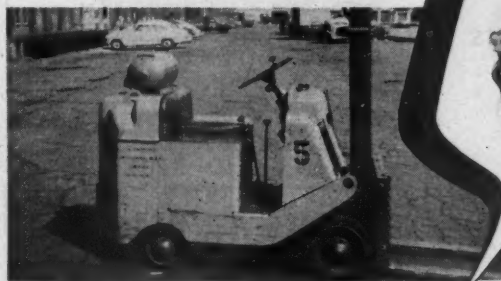
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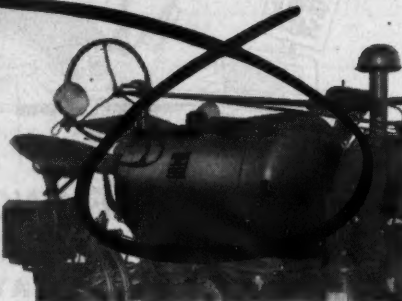
Dealers are Fast Learning that it Pays to

Install AMERICAN 'Better-Bilt' Motor Fuel and Tractor Tanks

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TRACTOR-TAILORED
AMERICAN TANK ON
FARMALL "M" -
Mounted Under
Steering Post

The Industry's Finest Design
and Construction!

Complete with Brackets,
Ready to Mount!



For carefree service be sure to install AMERICAN "Better-Bilt" TANKS on all LP tractor and truck conversion jobs. AMERICAN LP motor-fuel tanks are built in sizes from 10 to 30 inches in diameter. AMERICAN "Better-Bilt" tractor-tailored tanks replace gasoline tanks and are available for most popular

makes of tractors; complete with steel brackets to fit. New type construction; better designed . . . actually better-built. Liquid line tube inside tank is a specially designed unit of steel, and is braced at top, virtually eliminating possibility of breakage.



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motor boat or airplane are subject to the 2-cent federal tax at the retail level."

The person selling the LPG to the owner, or operator of a motor vehicle, motor boat or airplane for use as a fuel for propulsion is required to pay the tax. When the tax has not been paid the user of L.P. gas for the propulsion of a motor vehicle is liable for the tax. Consequently, the L.P. gas dealer would be required to report directly to the internal revenue department the tax both on motor fuel sold and that used in his own vehicles.

The law further provides for a refund to the vendee if fuel upon which the tax has been paid is used or resold for other purposes. So far no special instructions or forms have been issued by the department covering this change in law. Existing gasoline tax forms will be used.

Safety of L. P. gas Cited In ICC Publication

That L. P. gas is a safe motor fuel was set forth in no uncertain terms by the Interstate Commerce Commission bureau of motor carriers in its recently issued section of the safety publication, "Motor Carrier Fire Accidents—1951." It contains the following statement:

"It would appear from examination of accident records that diesel power equipment is less likely to catch fire due to tank rupture than is gasoline powered equipment and that L. P. gas equipment is practically never involved in a fire accident because of failure or rupture of the fuel system. This increased safety may be attributed to the lower flash point of diesel fuels and the necessarily sturdy construction of butane or propane fuel tanks. Carriers of dangerous and valuable cargo should, therefore, give careful consideration to the type of fuel which powers their units."

Recent State Legislation

New York: The house and senate have passed a bill making it unlawful to keep L. P. gas within any multiple dwelling.

Virginia: A senate bill amends the law covering motor fuel use taxation of special fuels. The bill corrects language that would have had the effect of placing the motor fuel tax on all L. P. gas.

All gas burning heaters on premises licensed for lodging, care or entertainment of the public must be designed so that all products of combustion are collected within the heater, and effectively vented to the out-

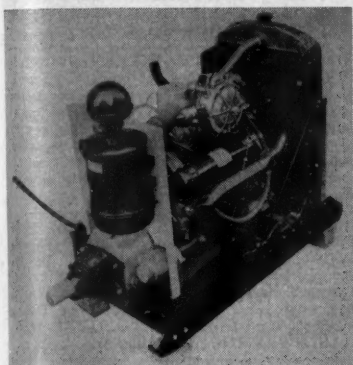
side air two feet above any obstruction within a radius of 15 ft. The heater must have a down draft diverter, wind cap, automatic safety pilot and pilot device.

Michigan: State tax commission has issued recommendations as to valuations on gas and oil tanks.

Ford Industrial Engine Now Equipped for L. P. gas

Ford 317 cu in. V-8 industrial engines are now available from the Ford agencies with factory-installed LPG carburetion equipment. The engines are being widely promoted for specialized uses, particularly for irrigation pumping, where L. P. gas has become the dominant fuel in many irrigated areas.

Carburetion equipment consists of



the Algas Model 1570-E converter and the Algas F-1850 carburetor with built-in Holly governor.

The engine is available in three forms: bare engine for replacement of other power plants in already-installed bases; as an un-enclosed irrigation engine with skids and cooling system; as a completely enclosed power unit.

Cool Intake Air Increases Power

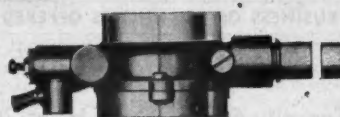
A considerable gain in power in the J. I. Case tractors having the cast iron air cleaner mounted in direct connection with the exhaust can be made, according to several midwestern conversion shop operators, by disconnecting the air tube from this cleaner, and connecting the carburetor to a new air cleaner mounted away from the heat of the engine.

Due to limited space, it is necessary in using an oil bath air cleaner to mount it either on the side of the engine, or on top of the hood, with a hole cut through the hood top to permit passage of the air tube.

"Using air from a cool source, instead of taking it through the cast iron corn popper," says one correspondent, "makes the owner think he has at least 20% more horsepower."

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Opportunity Knocks for Dealers who want to increase their load and balance their year round business. No special equipment required... your own auto mechanic can install a DIX LPG Carburetion unit, it's so simple and easy to install, trouble-free and efficient.

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★ Idle Tube Adaptor and Connectors
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BUSINESS OPPORTUNITIES OFFERED

SMALL L.P.G. BULK AND BOTTLE BUSINESS. Reasonably priced, located in Southeast, with wonderful opportunity for expansion. Cash or terms. Owner wishes to retire account ill health. Box 65, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

PROPANE BUSINESS FOR SALE. LOCATED in Arkansas in Mississippi River Delta. Consists of two large bulk storage plants on railroad and 3 retail stores handling complete line of appliances and small hardware. Store buildings are all rented and in main business district of towns. 2 large bulk delivery trucks, 4 pickups, 2 cars, all late models. Over 500 bottle customers, 1,200 bulk customers, irrigation and farm tractors. Sold over 1 million gallons last year at very attractive margin. Business netted before taxes in 1953 over \$31,000.00. Gross sales over \$260,000.00. Business will pay for itself in 3 years. \$15,000.00 cash will handle, balance over 5 year period, 5% interest. Write Box 515, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

BUSINESS FOR SALE

Tools, dies, fixtures and entire inventory for L.P.G. carburetor. OVER \$100,000 FOR LESS THAN 50¢ ON THE DOLLAR.

Product in successful operation. Satisfactory reason for present owner's desire to sell. Box 520, BUTANE-PROPANE News, 198 S. Alvarado, Los Angeles 57, Calif.

SELL MORE with Display Classified Ads

This is an example of the attention getting type faces available in display ads in the BPN Classified Section. Cost is only \$12.00 a column inch per issue, an ad this size (3") is \$36.00. The large lines above are set in 18 pt. Other available sizes are shown below.

14 POINT DISPLAY
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10 POINT DISPLAY

Body type is set in 7 pt like this sample. An average of 7 words to the line.

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Capacity 60,000 M.C.F.H. at 20 P.S.I. 1350 B.T.U. Includes three 30,000 gallon standard propane tanks and complete unloading equipment. Low pressure steam boiler and automatic vaporizer. Askania mixer. Plant is NEW, 1953. Never used. Located in Eastern Iowa.

PRESTON MANAGEMENT CO.
1101 Theodore Street
Joliet, Illinois
Telephone 6-2459

BUSINESS OPPORTUNITIES WANTED

INTERESTED IN PROFITABLE PROPANE gas business located in central Kentucky. Contact us. Olson's Gas Co., Versailles, Ky.

LPG BUSINESS IN CENTRAL FLORIDA. Send details and price to Box 510, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

WANTED TO BUY—PROPANE BUSINESS: Oregon, Washington, Idaho, Utah. Large or small. Private party. Write Box 610, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

HELP WANTED

WANTED SALESMAN — HAVE AN EXCELLENT opportunity for a salesman qualified in domestic and industrial sales. Write to Owyhee Bottled Gas Service, Box 838, Ontario, Oregon, for further particulars about position. Please state background.

WANTED: FIELD REPRESENTATIVE—Large New England L. P. gas company has opening for field representative to travel in New England. Must know the L. P. gas business and have sales experience. Salary and expenses. Write Box 630, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

SOUTH FLORIDA SALESMAN WANTED: Aggressive salesman to call on retail and wholesale accounts for newly established company. Grow with us. Give complete details. All replies in confidence. Box 615, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

ROCKY MOUNTAIN AREA: WANTED manager to take complete charge of L. P. gas business both utility and truck deliveries. Must be able to keep accounts receivable in order and have experience in all phases of this dual operation. Present manager knows of this ad. Please give complete details of experience and salary desired. All replies kept in confidence. Box 620, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

FOR SALE — TRUCKS AND TRAILERS

BRAND NEW 1600 W.G. TWIN NOR-TEX PROPANE TANK mounted on USED, 1953 Int. 2½-ton L-170, 5-speed transmission, 900 x 20 tires, truck in excellent condition with low mileage. NOW LOOK AGAIN AT THIS PRICE. Both tank and truck for only \$2,300.00. Can furnish NEW PUMP, METER, PIPING TO YOUR SPECIFICATIONS at our regular prices. WHITE RIVER DISTRIBUTORS, INC., Phone 570, Batesville, Ark.

THIS IS IT—NEW 1954 INTERNATIONAL RP-160, factory equipped for propane, 2-speed, complete with 1400 W.G. twin propane tank, mechanical seal pump, filler hose, piped complete, painted, lights and ready to deliver gas at only \$4,255.00. Add \$190.00 for 1600 twin or \$300.00 for 1800 twin. 25% down, balance 18 months at 5% interest. White River Distributors, Inc., Batesville, Ark.

COMPARE OUR PRICES — A NEW 1400 W.G. twin Model 100 propane tank with Viking KK-190 pump, PTO, plumbing, ICC lights, filler hose, white enamel, Neptune #433 Print-O-Meter; excise tax paid, mounted on NEW 1954 6400 2-ton, 2-speed Chevrolet or Ford; \$4,230.00. Easy terms. WHITE RIVER DISTRIBUTORS, INC., Batesville, Ark.

BEFORE YOU BUY A NEW PROPANE delivery truck, call us collect for prices. IMMEDIATE DELIVERY. EASY TERMS. Five models to choose from, 600 to 2,000 gal. Furnished with or without trucks. All makes and models of trucks to choose from, and we save you up to \$600.00 on the new trucks. Our trucks are being used by the largest gas companies in the world. WHITE RIVER DISTRIBUTORS, INC., Batesville, Ark. Phone 570 or 686.

USED PROPANE DELIVERY TRUCK FOR sale. L-160 International, 2-ton, with Model 100, 1400 gal. twin tanks, mechanical seal pump, Ensign propane carburetion, hose, piped complete. This unit was placed in service new 15 months ago and is in good condition with approximately 19,000 miles. Easy terms. \$3,195.00 plus meter cost if one is wanted. White River Distributors, Inc., Batesville, Ark.

REAL SAVINGS ON COMPLETE PACKAGE UNIT FOR IMMEDIATE DELIVERY. 1400 WG U-69 twin delivery unit with trim skirting, mounted on new 1954 factory LPG powered International, RP-162 chassis. Two speed axle, 50-gallon recessed fuel tank, P.T.O., splines jack shaft, Viking mechanical seal pump, 50' filler hose and ICC lights. Painted gleaming aluminum over red oxide. Ready to start making you money for only \$4,085.00, including taxes. F.O.B. Denton. Meters, fire extinguisher and cabineting available at low extra cost. Call NOR-TEX PRODUCTS COMPANY collect, C-5416, Denton, Texas.

FOR THE BIG HAUL . . . NEW 1800 WG U-69 NOR-TEX twin delivery unit. Equipped for service with trim skirting, 50-gallon recessed fuel tank, ICC lights, Viking mechanical seal pump, P.T.O. and splines jack shaft. Mounted on brand new factory LPG powered International RP-172 chassis with the big 282 LPG engine. 5th overdrive transmission, two speed axle, 9:00 tires all around, heavy duty rear springs. All ready to start delivering gas for only \$5,125.00, including taxes, F.O.B. Denton. Call NOR-TEX PRODUCTS COMPANY collect, C-5416, Denton, Texas.

BUTANE-PROPANE News

CLASSIFIED Advertising



FOR SALE—TRUCKS-TRAILERS - Cont.

TWO PROPANE TANKERS FOR SALE. One 1188 W.G. single barrel on 1951 1½-ton Dodge truck and one 1616 W.G. double barrel with 1951 2½-ton Dodge, both equipped with Neptune Print-O-Meters and 2" high capacity pumps. Priced to sell. Alton Bottled-Gas Co., Godfrey Rd., Box 214, Alton, Ill.

FOR SALE: 1952 DODGE 2-TON TRUCK with 1500 gal. twin tank, Viking pump, Print-O-Meter, Algas carb. 23,000 miles in perfect condition. \$3,000.00. 1951 G.M.C. 2½-ton truck with 1250 gal. single tank. New pump, Ensign carb. 57,000 miles all in good condition. \$2,200.00. Write Box 709, Burwell, Nebraska.

VISIT BOOTH NO. 126 NATIONAL L.P.-G.A. Convention. See the latest model PROPANE DELIVERY TRUCKS on display. Lowest prices in U.S.A. Satisfied customers, large and small, world over. WHITE RIVER DISTRIBUTORS, INC., Batesville, Ark.

BUYING YOUR FIRST DELIVERY truck tank? Get the facts on Trinity's New Model #104 Twin 1400 WG capacity 250# WP complete with pump, printometer, hose, plumbing, etc., installed on new 1954 135 HP Chevrolet chassis—ready to haul gas today—\$4,300.00 F.O.B. Trinity Steel Co., Inc., 3301 S. Lamar St., Hunter 8321, Dallas, Texas.

1951 GMC 2-TON TRUCK AND TANKS— 1250 propane twin tanks; Viking pump; hose; extinguisher; all piping; good tires; complete ready to operate. Only \$2850. 1950 Ford 2-ton truck and tanks; 1500 twin propane; Viking pump; hose; extinguisher; all piping; good tires; complete ready to operate. Only \$2850. Lebanon Propane Gas Co., Phone 405, Box 428, Lebanon, Mo.

USED PROPANE DELIVERY TRUCK FOR sale—G.M.C. 2-ton 1949 truck with Century LP carburetion and 40 gallon fuel tank. 80,000 actual miles and 36,000 on motor. Columbia single barrel 1185 W.G. U-69. 200 lb. W.P. tank with 70,000 lb. steel and KKI24 Viking pump and 50 ft. hose. In daily use. Immediate delivery. \$1395.00. HUMBURG'S, RUSSELL, KANS.

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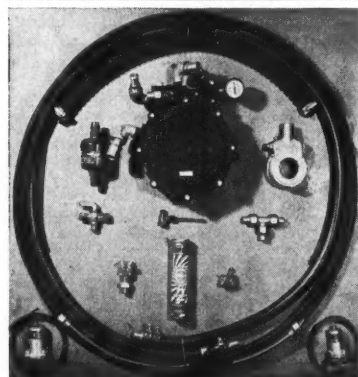
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